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Thank you for (not) smoking

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Thank you for (not) Smoking: Essays on Institutional Theory and Strategy in a Contested Industry

Ana M. Aranda

September 7th, 2016

**Thank you for (not) Smoking:
Essays on Institutional Theory and Strategy
in a Contested Industry**

Proefschrift

ter verkrijging van de graad van doctor aan Tilburg University, op gezag van de rector magnificus, prof. dr. E.H.L. Aarts, in het openbaar te verdedigen ten overstaan van een door het college voor promoties aangewezen commissie in de aula van de Universiteit op woensdag 7 september 2016 om 10.00 uur door

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Prof. Dr. Renate Meyer

Prof. Dr. Patrick Vermeulen

*“The modern cigarette is a work of art (or piece of work),
feted via billions in ad and promotional revenues
as a handy, handsome, white, svelte, smooth,
and easily fondled consumer “good”” (Proctor, 2011: 486)*

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INTRODUCTION

The complex interplay among organizations, society, and the government, has been central to the organization and management scholarship. However, prior research has mainly examined the dyadic relationship between these actors. In fact, Edelman, Leachman, and McAdam (2010) identify the need to theorize and test the relationship among all of the aforementioned actors, especially so in the presence of contestation. This dissertation links these three different actors - organizations, society, and the government - laying bare the dynamics and outcomes of their intertwined actions. In doing so, this dissertation understands organizations not only as belonging to an institutional environment that has an influence on them, but as actors with agency that can actively shape their institutional environment (Vaara & Durand, 2012; Walker & Rea, 2014). In short, this dissertation offers an industry level approach that sheds light on the importance of research that incorporates organizations, society, and the government when looking at the complete pathway of institutional change, ranging from its antecedents to its implications on the legitimacy and performance of the industry.

This dissertation consists of three essays that consider: i) the institutional change generated by the simultaneous actions of activist organizations and corporations, ii) the influence of coercive pressures and legitimacy threats on industry performance, and iii) the importance of the concept of legitimacy in organization and management scholarship, with particular emphasis on the strength of the performance implications of legitimacy. Using the empirical setting of a contested industry, this dissertation combines strategy and institutional theory in order to conceptualize and test how industry participants shape institutions, and simultaneously, how institutions shape industry strategies and performance. Hence, from a theoretical perspective, the dissertation intersects with the study of social movements and legal environments. In short, the essays that comprise this

dissertation shed light on where institutional pressures and legitimacy threats originate, and how they affect industry performance.

This dissertation contributes to the literature by integrating institutional theory and strategy research in an effort to shed light on the dynamics associated with contested industries. Although previous efforts put forward that contested industries are socially condemned not only because their products are harmful and/or addictive but also because of the disparity between their economic interests and societal welfare, little research attention has been paid to conceptualizing contestation (Galvin, Ventresca, & Hudson, 2005). Despite few efforts to study contested industries such as arms (Durand & Vergne, 2015; Vergne, 2012), alcohol, gambling (Galvin et al., 2005), and tobacco (Hsu & Grodal, 2015; Simons, Vermeulen, & Knoben, 2016), our theoretical understanding of contestation remains limited. Contested industries, which are often times referred to as ‘evil, shunned and/or sin’, are those that confront continuous societal disagreements over their ‘right to exist’ (Cai, Jo, & Pan, 2011; Fabozzi, Ma, & Oliphant, 2008; Hong & Kacperczyk, 2009; Kim & Venkatachalam, 2011; Leventis, Hasan, & Dedoulis, 2013). In other words, a contested industry is one in which there is a lack of societal agreement over the industry (Gallie, 1956), or absence of taken for grantedness or of general societal approval (Schneiberg & Clemens, 2006). Specifically, industries like alcohol, gambling, and tobacco are contested because they face disapproval from some society members that find them “offensive, inappropriate, or harmful” (Davidson, 2003: 2), whilst other societal members argue that “the personal freedoms of drinking, smoking, and gambling are woven into the very fabric of American society” (Ahrens, 2004: 12). Using the data collected by Sharkey (2014)¹, I find that the ratings given based on a 5 points Likert scale to the question: ‘How virtuous or morally good do you think organizations in these industries are?’, are extremely low for alcohol, gambling, and tobacco (*average* = 1.65/5.0). Moreover, a comparison of the mean ratings between tobacco and alcohol (two-sample $t(119) = -$

¹ I thank Amanda Sharkey for providing access to these data. For a detailed description of the data, please refer to Sharkey (2014).

8.03, $p\text{-value} = 0.00$), and between tobacco and gambling (two-sample $t(121) = -4.36$, $p\text{-value} = 0.00$), indicates that there is a statistically significant difference in how virtuous these industries are perceived to be (see Table 1). In particular, among these industries, tobacco has been found to be the least virtuous ($average = 1.13/5.0$). Therefore, the tobacco industry is a particularly well suited empirical setting for this dissertation, due to the multiplicity of norms, values, and beliefs surrounding it.

Ever since 2008 the WHO has called tobacco an epidemic, for smoking is the top social burden generated by human beings in terms of its aggregated costs, which are calculated to be 2.9% of the global GDP (\$2.1 trillion dollars). Moreover, the Surgeon General (2014) has referred to smoking caused diseases as the “greatest public health catastrophes of the century”, as tobacco kills more than 6 million people each year. In the US alone, cigarette deaths are “like two jumbo jets crashing every day” (Proctor, 2011: 2). The addictive nature of cigarettes and the harmful effects associated with smoking further solidify the classification of the tobacco industry as a contested industry. However, although nowadays the tobacco industry is contested, in its early years tobacco was used for religious rituals, as a medical herb, and as an important export product. In the 19th century, the industrialization of agricultural production induced several changes in the tobacco production process, which transformed the main form of tobacco consumption from chewing tobacco leaves to smoking cigarettes. With industrialization, massive cigarette production was born. As a result, tobacco companies evolved from national-bounded, small-scaled, and labor-intensive, to multinational enterprises (Lock, Reynolds, & Tansey, 1998). In parallel with the change in the industry’s structure, by the mid-20th century, the causal relation between tobacco and lung cancer was discovered and scientifically supported (Nathanson, 1999). A pivotal change in the development of this industry occurred in 1964, when the US Surgeon General, the leading spokesman on public health in the US, released a breaking report on smoking and health in which smoking was categorized as a health hazard. Ever since the

publication of this groundbreaking report, scientific evidence against smoking piled up; not only the negative externalities of second hand smoke were revealed in 1986, but also the addictive nature of cigarettes was uncovered in 1988. Moreover, in 1998, litigation efforts against the tobacco industry reached a peak, as the four largest tobacco companies (*i.e.* Philip Morris, R. J. Reynolds, Lorillard, and Brown & Williamson) and the Attorney Generals of 46 states signed the Tobacco Master Settlement Agreement, which mandated the companies: “(1) to pay the states annually and in perpetuity billions of dollars; (2) to restrict permanently their advertising, promotion, and marketing of cigarettes; and (3) to contribute \$1.5 billion to establish what has become the American Legacy Foundation, an entity dedicated to counter-advertising and public education against cigarette smoking” (National Association of Attorneys General, 2007). As a result, during the last couple of decades (see Table 2), tobacco companies have faced a tougher regulatory environment as well as increasing threats to their legitimacy, while simultaneously, have had to devise strategies to protect their performance to remain strong, creative, and relentless. The next paragraphs outline the three chapters that form the core of this dissertation.

Chapter one - *On two sides of the smoke screen: How activist organizations and corporations use protests, campaign contributions, and lobbyists to influence institutional change* – considers the simultaneous influence of movements and counter-movements on institutional change, understood as changes in the regulative pillar of institutions. Specifically, this chapter proposes that activist organizations and corporations use a combination of conspicuous (*i.e.* protests) and inconspicuous (*i.e.* campaign contributions and lobbyists) strategies to influence the enactment of laws. Thus, this chapter considers the effects of protests, campaign contributions, and lobbyists, by analyzing their simultaneous impact on disrupting or maintaining the status quo. Using data from the tobacco industry, this chapter examines the interplay between anti-smoking groups and tobacco companies that simultaneously use the mentioned strategies to support or deter the enactment of tobacco control

regulations. The simultaneous strategies used by these actors to influence the probability of enactment of a comprehensive smoking ban, are tested on yearly US state-level data for the period 2000-2012 and using a two-stage residual inclusion estimation method to deal with endogeneity. The results reveal that information and financial strategies (*i.e.* campaign contributions and lobbyists) are less effective than constituency building strategies (*i.e.* protests) to influence institutional change for actors that belong to a contested industry. Overall, this chapter contributes to the literature by answering the question of how activist organizations and corporations change institutions in an established contested industry.

Chapter two - *Clearing the smoke: Coercive pressures, legitimacy, and performance in the US tobacco industry* – deals with the mediating role of legitimacy in the relationship between increasing coercive pressures and performance. This chapter examines increasing coercive pressures as an antecedent of legitimacy, which in turn is a precursor of industry performance. The hypotheses are tested using a panel of monthly US state-level data for the 1994-2010 period and an instrumental variable estimation method to test for mediation. The results provide support for the mediating role of legitimacy, but only in the case where societal members support coercive pressures. Specifically, the effect of the enactment of tobacco control regulations that operate as a normative influence (*i.e.* youth access laws) on the performance of the tobacco industry (*i.e.* cigarette sales) goes through changes in the legitimacy of the tobacco companies. However, in the case of tobacco control regulations that are contested (*i.e.* smoking bans), the mediating effect of legitimacy is not present. In other words, the results reveal that increasing coercive pressures that operate as a normative influence affect industry performance through influencing societal perceptions about what is deemed legitimate, whereas this is not the case for pressures that transfer a set of incentives and sanctions. Moreover, the results indicate that tobacco control regulations that restrict the strategies available for the industry and that enable or discourage the use of cigarettes (*i.e.* youth access laws) have a significant impact on performance when compared to regulations aimed

at changing the behavior of adult smokers by restricting the occasions of consumption of cigarettes (*i.e.* smoking bans). Overall, this chapter contributes to the literature by including a fine-grained look at the concept of coercive pressures, by conceptually and empirically disentangling and separating the effects of increasing coercive pressures and legitimacy, and by empirically testing the performance consequences of legitimacy in an established contested industry.

Chapter three - *Performing by adhering? A review and meta-analysis of legitimacy* – takes stock of the extant theoretical and empirical work on legitimacy and performance in the organization and management scholarship. In the last decades, the concept of legitimacy has become an increasingly utilized construct in the organization and management literature. However, the myriad of theories and measures employed in studies using legitimacy has contributed to a fragmented field, especially so with respect to the performance consequences of legitimacy. Therefore, to gain an encompassing perspective on the legitimacy literature, this chapter reviews 127 papers published in top journals in the field, in an effort to integrate and expand extant scholarship using the concept of legitimacy. Moreover, this chapter uses meta-analysis techniques in a sub-sample of 84 papers to study the relationship between legitimacy and performance, in order to bring deeper and sharper focus to the relationship between these concepts. The results reveal that the correlation between legitimacy and performance is on average positive but small in absolute terms. Moreover, there is considerable variation in the observed effect size, pointing towards the presence of unobserved moderator variables in this relationship. Based on these results, and building on the review of the legitimacy literature, a framework is proposed that integrates antecedents, moderators, and consequences of legitimacy, and identifies a future research agenda.

The relationship between the three chapters in this dissertation is depicted in Figure 1. As Figure 1 and the previous discussion illustrate, there is a significant overlap between the chapters in terms of theoretical framework and research design. Moreover, in chapters one and two the empirical setting is in the contested tobacco

industry (this only differs in chapter three, where it is not applicable). Specifically, Figure 1 shows that chapter one examines the actions of activist organizations and corporations as precursors of institutional change, which is understood as the enactment of laws (*i.e.* tobacco control regulations). Chapter two investigates effects further down the chain, namely how increasing coercive pressures (*i.e.* tobacco control regulations) and legitimacy threats affect industry performance (*e.g.* the tobacco industry). Finally, chapter three digs deeper on the relationship between legitimacy and performance by presenting an exhaustive and comprehensive coverage of scholarship that uses the concept of legitimacy, and by providing an integrative meta-analysis of research on the performance consequences of legitimacy. Together, the three essays that compose this dissertation advance our understanding of how organizations shape their institutional environment which in turn determines their performance, and provide further insights into the advantages of integrating strategy and institutional theory research in order to better understand contested industry dynamics.

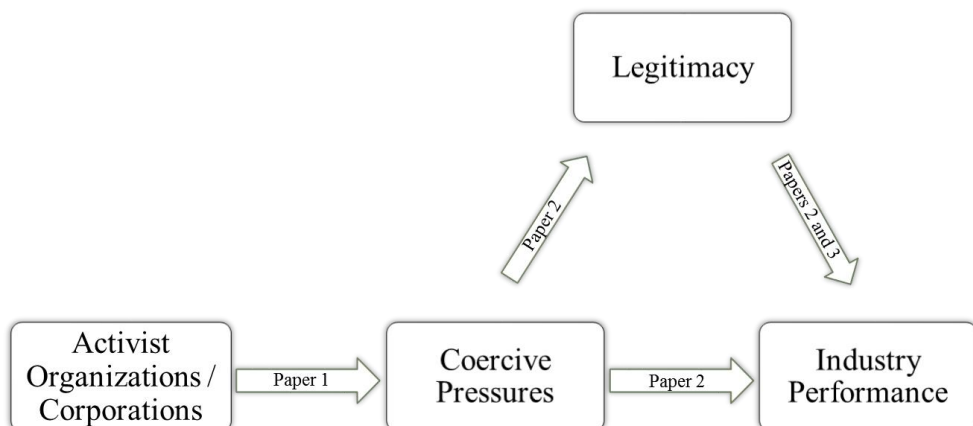
Table 1: How virtuous or morally good do you think organizations in these industries are?

	Mean	Std. Dev.	Min	Max
<i>Alcohol</i>	2.18	0.88	1	4
<i>Gambling</i>	1.64	0.78	1	4
<i>Tobacco</i>	1.13	0.39	1	3

Table 2: Timeline of federal tobacco control efforts in the US

Year	Milestone
1964	Surgeon General Report on Smoking and Health
1965	Federal Cigarette Labeling and Advertising Act
1970	Public Health Cigarette Smoking Act
1984	Comprehensive Smoking Education Act
1986	Surgeon General Report on the Health Consequences of Involuntary Smoking
1988	Surgeon General Report on The Health Consequences of Smoking
1990	Non-smoking flights
1992	Synar Amendment
1996	FDA issues regulations of tobacco products
1998	Master Settlement Agreement
2000	Supreme court rules that FDA cannot regulate tobacco
2005	World Health Organization's Framework Convention on Tobacco Control
2009	Family Smoking Prevention and Tobacco Control Act

Figure 1: Dissertation chapters



ON TWO SIDES OF THE SMOKE SCREEN: HOW ACTIVIST ORGANIZATIONS AND CORPORATIONS USE PROTESTS, CAMPAIGN CONTRIBUTIONS, AND LOBBYISTS TO INFLUENCE INSTITUTIONAL CHANGE

Abstract

This study explores the simultaneous influence of activist organizations and corporations on institutional change. Examining the enactment of comprehensive smoking bans by US states between 2000 and 2012, institutional change is identified as the enactment of tobacco control regulations. Focusing on protests, campaign contributions, and lobbyists as the strategies used by activist organizations and corporations to influence the enactment of bans, the dynamics between movements and counter-movements in the tobacco industry and their influence on the probability of the enactment of tobacco control regulations are studied. The results shed light on the effectiveness of these strategies to influence institutional change, and uncover potential moderators of this relationship. The results show that controlling resources is not a sufficient condition for an actor to be able to influence institutions, as financial and information strategies (*i.e.* campaign contributions and lobbyists) are found to be less effective than constituency building strategies (*i.e.* protests) to influence institutional change by actors involved with a contested industry. Overall, the study contributes to the theory by demonstrating the simultaneous and asymmetric effects of activist organizations and corporations that use conspicuous (*e.g.* protests) and inconspicuous (*e.g.* campaign contributions and lobbyists) strategies to change institutions.

Introduction

Decades after the 1964 US Surgeon General concluded that smoking causes lung cancer and other diseases, and after the accumulation of scientific evidence on the health risks and costs associated with smoking, tobacco remains the leading cause of preventable death in the US (MGI, 2014). Although legislation has been implemented to control the epidemic of tobacco-related diseases, the history of tobacco control has been a continuous struggle between anti-smoking groups focused on the hazards created by smoking on the one hand, and tobacco companies focused on the economic benefits associated with tobacco production and consumption on the other. This struggle has been fueled by the apparent success of the anti-smoking groups, whose actions increased the social unacceptability of smoking and fostered the enactment of laws to reduce cigarette consumption by highlighting the harmful effects of smoking. The anti-smoking movement, thus, has threatened tobacco companies and has sparked the emergence of the smokers' rights movement, a group aimed at resisting the enactment of smoking bans by representing smokers and others whose interests have been threatened by the success of anti-smoking activists (Meyer & Staggenborg, 1996; Zald & McCarthy, 1987). Two sides characterize the struggle between these actors: "the projection of honesty and trustworthiness for the tobacco industry, countered by public health's master frame of distrust of the industry" (Derry & Waikar, 2008: 102). In this contested industry, where anti-smoking groups and tobacco companies interact and compete for support, we seek to understand how different actors use various strategies to shape the enactment of tobacco control regulations.

We build on research in the intersection between social movement theory, institutional theory, and non-market strategy. Traditionally, these streams of research have focused either on the broad impact of social movements on institutions (Amenta & Caren, 2004; Andrews, 2002; King & Pearce, 2010; Olzak & Soule, 2009; Schneiberg & Lounsbury, 2008), or on the influence of social movements on corporations (de Bakker & den Hond, 2008; McDonnell & King,

2013). However, to the best of our knowledge, the simultaneous influence of social movements (hereafter activist organizations) and corporations on institutions remains understudied (Vogus & Davis, 2005). In fact, as Edelman and coauthors (2010) posit, we know relatively little about the interplay among corporations, activist organizations, and institutions, whereas we know more about each of these dyadic relationships. Considering this interplay is of importance as it has been recognized that institutional change is rarely achieved without contests between actors that have divergent goals (O'Mahony & Bechky, 2008) and that are differently affected by such change (Kim, Shin, Oh, & Jeong, 2007). Hence, we examine the actions of activist organizations to promote their interests, mobilize public opinion, and obtain political support, while simultaneously explore the actions of corporations that counter-mobilize to promote their own, and often times contrary, interests (Weber & King, 2013). Specifically, we aim to uncover the role of activist organizations and of corporations that counter-mobilize as producers of institutional change (Schneiberg & Lounsbury, 2008).

In this paper, we are interested in contributing to research on how institutional change comes about (Davis & Greve, 1997). To do so, we consider how activist organizations and corporations bring about changes in the regulative pillar of institutions, which is the most common target of their actions (Bosi & Uba, 2009; Weber & King, 2013). That is, we understand institutional change as the enactment of new laws. Therefore, we recognize that activist organizations and corporations contribute to institutional change by promoting laws that further their interests, or by obstructing laws that challenge or disregard their interests. Specifically, we argue that contests between activist organizations and corporations result from innate differences in their respective objectives that lead activists to recognize the need to promote laws which embed their interests over the interests promoted by corporations, and *vice versa* (de Bakker, den Hond, King, & Weber, 2013). For instance, in November of 2002 Delaware became the first state to enact a comprehensive smoking ban (*i.e.* a ban in restaurants, bars, and workplaces).

IMPACT – a social movement of tobacco control and smoking prevention organizations – successfully organized to encourage the passing of the ban by gathering public support with the message: "Second-hand smoke causes diseases and death!" (Boyer & Ratledge, 2009). The tobacco industry fiercely opposed the passage of the ban on the grounds of its possible negative economic consequences, yet the ban was enacted. Thus, we study contests between activist organizations and corporations as central precursors of an industry's particular regulative structure.

We study the US tobacco industry from 2000 to 2012. Although scarcely studied (Hsu & Grodal, 2015; Simons et al., 2016), the tobacco industry provides a suitable empirical setting for this paper for the reasons outlined below. First, mobilization in the tobacco industry has involved two sides: anti-smoking groups that aim to advance the enactment of tobacco control regulations, on the one hand; and tobacco companies that aim to prevent regulations, on the other hand (Pertschuk, 2001). Moreover, as smoking is a disputed social issue, actors on each side of the smoking debate play a central role in shaping societal perceptions and attitudes towards smoking, and ultimately, in influencing tobacco control regulations (Derthick, 2002). Second, the dynamics occurring in the tobacco industry shed light on the pursuit of institutional change through conspicuous (*e.g.* protests) *versus* inconspicuous (*e.g.* campaign contributions and lobbyists) strategies. Specifically, the tobacco industry is known for spending considerable efforts and for investing substantial resources on campaign contributions and lobbyists to undermine the enactment of tobacco control regulations (CRP, 2013); while, at the same time, both anti-smoking organizations and tobacco companies - through Astroturf groups¹ - have used protests in order to either encourage or promote the enactment of tobacco control regulations, or to oppose or thwart the enactment of such regulations (Derry & Waikar, 2008; Nathanson, 1999). Thus, this industry provides an opportunity to examine the effect of simultaneous conspicuous and inconspicuous means to

¹ Astroturf, contrary to grassroots organizing, is the practice by which organizations secretly support or create a counter-movement to articulate their interests (Davis, Morrill, Rao, & Soule, 2008).

influence institutional change. Finally, the importance of studying the tobacco industry is also related to the fact that tobacco is considered to be at the top of the list of social issues (other issues being violence, obesity, and alcoholism) which require laws intended to reduce the preventable deaths associated with them (MGI, 2014). In sum, the tobacco industry represents a particularly relevant empirical setting to study the unexplored dynamics underlying the interaction between movements and counter-movements and their impact on institutional change, and to explore the different strategies used by activist organizations and corporations to influence institutional change.

By answering the question of how activist organizations and corporations change institutions our contribution to the literature is three-fold. First, we respond to the call for research on identifying the causal influences of activist organizations and corporations on institutions, and shed light on the differential effects that these actors have on institutional change (Walker & Rea, 2014). Specifically, studying the interplay between activists that support and corporations that counter-mobilize to oppose institutional change is of interest as the importance of examining the ‘countervailing effects’ of movements and counter-movements has been recognized (Soule & King, 2006), yet understudied (Vogus & Davis, 2005). Second, we respond to the call for research on “how lobbying and business collective actions shapes government” (Walker & Rea, 2014: 35), by uncovering the effects of the strategies used by activist organizations and corporations to shape laws. That is, we not only examine different actors (*i.e.* activist organizations and corporations), but also the different strategies they use (*i.e.* constituency-building, financial, and information strategies) (Andrews & Caren, 2010; Soule, 2009; Walker & Rea, 2014), in an effort to gain a deeper understanding of their influence on the enactment of laws. Finally, we provide a longitudinal conceptualization of the multi-level process of institutional change at the industry level. Taking an industry perspective for the understanding of institutional change is pertinent because contests between activist organizations and corporations often take place within industries (Hiatt, Sine, &

Tolbert, 2009). Overall, this study presents a comparison between movements and counter-movements, and between different strategies in an effort to contribute to the understanding of the causal dynamics in the process of institutional change.

Theory and Hypotheses

Our work differs from prior research by focusing on institutions as targets of the simultaneous actions of both activist organizations and corporations. Previous research has found that activist organizations have been successful in their attempts to change institutions (Bosi & Uba, 2009; Earl, 2004; Giugni, 1998). McCammon and colleagues (2001), for instance, document the expansion in women's voting rights brought about by women's suffrage activists. In the same vein, McVeigh, Myers, and Sikkink (2004) examine the political consequences of the Indiana Ku Klux Klan and find that the Klan's actions impacted political change by influencing electoral outcomes. Similarly, Soule and Olzak (2004) show that social movements' actions, along with the public opinion and political climate of a given state, influenced the ratification of the Equal Rights Amendment. Schneiberg and Soule (2005), study rate regulation in fire insurance and find that the actions of challengers anteceded the enactment of such laws. Hiatt and coauthors (2009) explain how the temperance movement changed societal normative expectations about drinking as well as alcohol related laws, which in turn promoted the founding of soft drink manufacturers. Recently, Guérard, Bode, & Gustafsson (2013) analyzed how struggles between proponents (*i.e.* customers/users) and opponents (*i.e.* corporations) of the diesel filter lead to the inclusion of this filter as the default technology for diesel cars in Germany. As can be noted, previous research has made some progress towards understanding the influence of activist organizations on institutions (Amenta, Caren, Chiarello, & Su, 2010).

Comparatively, there is much less research on the influence of corporations on changing institutions (Hillman, Keim, & Schuler, 2004), a notable exception being the work of Davis (1991) on the adoption of the poison pill as a takeover defense. Within the organizations and management literature, most research on this

topic has taken a non-market strategy perspective (Walker & Rea, 2014). Work originating from this stream of research has discussed how corporations influence institutional change by implementing non-market strategies (de Figueiredo, 2009; Keim & Zeithaml, 1986), has uncovered the factors that predict the use of these strategies (Boies, 1989; Grier, Munger, & Roberts, 1994; Meznar & Nigh, 1995; Schuler, Rehbein, & Cramer, 2002), and has identified their antecedents and performance consequences (Lux, Crook, & Woehr, 2010). For instance, Davis and Thompson (1994) describe the effects of shareholder activism on legislation related to corporate takeovers. Similarly, Hillman (2003) examines the determinants of political strategies by American companies in Europe, and finds support for the influence of organizational as well as institutional (*i.e.* corporatism/pluralism) determinants on the choice of political strategy. Bonardi and coauthors (2005) propose a conceptual framework which identifies the political strategies used by corporations aiming to influence public policy to advance their interests based on the attractiveness of the political market. Although prior studies have contributed to our understanding of how corporations influence institutions, few empirical tests of non-market strategies are available (Soule, 2012).

With respect to research that examines the actions of both activist organizations and corporations, the bulk of research causally linking the strategies used by these actors to institutional change has mainly been from the political science and sociology literatures. Baumgartner and co-authors (2009, 2014; 2001; 2012; 2015; 2012; 2005) have conducted several studies on the influence of organized interests groups and social movements on institutional change. These authors have examined the different tactics of organized interest groups and social movements (Gilens & Page, 2014), and the outcomes of their efforts (Hojnacki et al., 2012). Much of the work of Baumgartner and co-authors pays special attention to the influence of different actors on the political process (often times on roll call votes or attention) either through PAC contributions, mobilization, or lobbying efforts (Baumgartner & Leech, 1996; Burstein & Linton, 2002; Grossmann, 2012;

Hojnacki et al., 2012). However, within this line of work, the simultaneous influence of different actors using several strategies to influence institutional change remains to be explored, especially so in the specific context of contested industries.

Therefore, this paper follows the suggestion by Hojnacki et al. (2012) and differs from previous work on interest group advocacy and institutional change by specifying the direct interconnectedness of actors and strategies, and by studying the strategies of actors to achieve their goals, not in isolation but, with special attention to context.

Hypotheses

We identify two central actors in the debates over institutional change: activist organizations and corporations. As the struggle “between the public interest and corporate interests is perhaps nowhere better illustrated than in the decades-long struggle between the tobacco industry and advocates for public health” (Pertschuk, 2001), we follow prior research that has recognized two main sides in the tobacco control debate (Derry & Waikar, 2008; Nathanson, 1999). On the one hand, activist organizations represented by ‘anti-smoking groups’ (*e.g.* coalitions on smoking or health, groups against smoking pollution, tobacco control and prevention organizations, etc.) that advocate for restrictions on smoking or that encourage the enactment of tobacco control regulations. On the other hand, corporations that represent the counter-movement and oppose the enactment of tobacco control regulations. Although tobacco companies play a leading role in organizing efforts and funding campaigns to oppose tobacco control regulations (Blanke & da Costa e Silva, 2004), the counter-movement is a broad group that features tobacco companies, smoker’s rights groups, and other associations (*e.g.* tobacco growers). Hence, we use the label ‘Big Tobacco’ to broadly represent the counter-movement. By identifying the struggle over tobacco control regulations as being between ‘anti-smoking groups’ (*i.e.* tobacco control organizations or groups that support the enactment of bans) and ‘Big Tobacco’ (*i.e.* organizations or advocates representing the tobacco industry who fight the enactment of laws), we thoroughly represent the two sides that compose the “tobacco wars” (Pertschuk, 2001). This classification is

also in line with the characterization of the media, where the struggle has been portrayed as being between anti-smoking groups on one side, and the tobacco industry -which has been commonly labeled 'Big Tobacco' - on the other (Menashe & Siegel, 1998).²

We model the interaction between activist organizations and corporations that counter-mobilize taking into account that these actors use various strategies to change institutions. Scholars have identified the most prominent strategies used by contesting actors to be conspicuous and inconspicuous strategies (Andrews & Caren, 2010; Soule, 2009; Walker & Rea, 2014). Next we develop our hypotheses and establish how anti-smoking groups and Big Tobacco use conspicuous (*e.g.* protests) and inconspicuous (*e.g.* campaign contributions and lobbying) strategies in order to influence the likelihood of the enactment of tobacco control regulations.

Protests

Following prior research, protests are defined as manifestations or demonstrations by which actors voice their claims, convey their aims, and attract support to disrupt or maintain the status quo by promoting or resisting institutional change (Earl, Soule, & McCarthy, 2003; King & Soule, 2007). Research has traditionally considered the regulative pillar of institutions to be the central target of protests (Walker, Martin, & McCarthy, 2008).³ McAdam and Su (2002), for instance, assess the effects of protests on congressional voting. Luders (2006)

² Although it should be noted that the group collations described above occur in an ad hoc basis, this grouping structure recognizes that the individual efforts of the actors on each side of the tobacco control debate focus on advancing a common cause, on defending a common interest, and on defeating a common opponent. That is, the actors on each side share the same claim and show high consensus because the issues that they represent are beyond the interests of a single actor (*e.g.* the right to breathe clean air vs. smoking as a right), which facilitates the pursuit of a shared goal. Moreover, as actors come together around the issues they aim to advance, they display unity by taking identical positions on the smoking debate, and their unified interests are stronger than the influence of a single actor (Baumgartner et al., 2009).

³ An exception is the work of Pescosolido, Grauerholz, and Milkie (1997), who study the normative pillar of institutions as target of protests by examining how the representation of African Americans in children's books changes when racial images are challenged by, among others, protesting.

examines how protestors are successful in obtaining their legislative demands as a function of cultural norms and economic interests. Similarly, Olzak and Soule (2009) provide evidence for the influence of protests on congressional hearings. In sum, prior studies have found that protests have a role in changing the regulative pillar of institutions by making an issue more salient, by generating public support for the issue, and by putting it on the political agenda (Snow, Porta, Klandermans, & McAdam, 2013). Therefore, in this study, we categorized protests as a conspicuous constituency building strategy (Hillman & Hitt, 1999).

In line with the tenants of political mediation theory, the ability of protests by activist organizations to achieve their goals comes not only from their visibility, but also from the public support these organizations receive and are able to mobilize. We posit that by being visible actions, protests by activist organizations have a significant potential to bring about institutional change, understood as changes in the regulative pillar of institutions. Protests are visible in that they allow actors to voice their claims, interests, and goals publicly, since they are not only performed on the streets but also covered by mass media. The visibility of protests means that they appeal simultaneously to policymakers and to the general public (King & Soule, 2007; Olzak & Soule, 2009), and that they are a source of information for both audiences (Ingram, Yue, & Rao, 2010). In the context of this study, for instance, anti-smoking groups have used protests to mobilize and receive support to achieve legislative change by making visible the importance of regulating tobacco use. That is, these groups have used protests as a mechanism to communicate their health message and to disrupt the status quo by altering the perception of smoking. By doing so, anti-smoking groups have been essential in the formation and change of tobacco control regulations by developing, constructing, and reinforcing a set of expectations about smoking. This is perhaps the most important influence that activist organizations have when using protests, their ability to disrupt the status quo (Snow et al., 2013). Thus, protests constitute a visible strategy used by activist organizations to achieve legislative change by voicing and articulating societal

views about a certain issue (McAdam & Su, 2002) and by enlisting the support of policymakers (Snow et al., 2013). Therefore, we expect as a starting premise that protests are impactful in promoting the activist organizations' agenda, and hypothesize:

Hypothesis 1a: Protests by activist organizations increase the probability of institutional change.

Although prior research has identified that protests by activist organizations foster and inspire corporate counter mobilization (Jasper & Poulsen, 1993), there are very few studies that explicitly consider the effects of the protests by movements and counter-movements (Walker & Rea, 2014). An exception being the work of Ingram and Rao (2004), who study the enactment of anti-chain-store legislation as being dependent on the actions of independent and chain stores, and that of Schneiberg et al. (Schneiberg, King, & Smith, 2008), who uncover how protest by social movements promote the formation of cooperatives. Despite these efforts, explaining how activist organizations provoke corporate mobilization remains an unexplored area of research (Walker & Rea, 2014).

Some current work has posited that corporations that are highly scrutinized, and are large and visible, are more likely to counter-mobilize (de Bakker & den Hond, 2008). In line with these efforts, we posit that although both activist organizations and corporations use protests to promote the visibility of their claims and to win supporters who would mobilize for their cause, there are two fundamental differences between the protests of activist organizations and those of corporations. First, whereas activist organizations protest in an attempt to disrupt the status quo, corporations in contested industries protest to maintain the status quo. Therefore, the protests of corporations are more likely to occur when the issue at hand is already on the political agenda but before the law is enacted, mainly because once the law has been passed it is more difficult for corporations to influence policymakers to alter or overturn it (Amenta, Caren, & Olasky, 2005). Second, corporations in contested industries need to devise protests that offset the constant

threats to their legitimacy by, for instance, allying with groups whose claims are deemed as deserving of recognition and attention, and that are successful in attracting and mobilizing public support.

In the context of study, protests by anti-smoking groups have encouraged the counter organization and resistance of Big Tobacco. At the same time, however, protests by anti-smoking groups have put Big Tobacco in a vulnerable position as they have pressed the industry to keep a low profile and to minimize its direct involvement in pro-tobacco protests. The ability of anti-smoking groups to invalidate Big Tobacco's protests by highlighting the dangers associated with smoking has been crucial in forcing Big Tobacco to use Astroturf groups to deliver its messages (Derry & Waikar, 2008; Nathanson, 1999). These Astroturf groups mitigate the inherent lack of consonance between Big Tobacco's interests and the public interest: "because opposition is most credible if it appears to come from independent sources, tobacco companies prefer to work through surrogates. They do this by mobilizing others whose interests are aligned with their own and by creating or co-opting 'front groups'" (Blanke & da Costa e Silva, 2004: 135). For instance, Big Tobacco has used a myriad of concealed counter-mobilization efforts to stop the enactment of laws: from founding think tanks such as the Tobacco Institute, to funding advocacy groups like the National Smokers Alliance, or engaging in mobilization by for example facilitating own employees' participation in protests against tobacco control regulations or supporting bars that resist smoking bans (Samuels & Glantz, 1991; Sweda & Daynard, 1996). The Astroturf efforts conceal Big Tobacco's involvement in the movement against smoking bans (Cardador, 1995; Smith & Malone, 2007), in an effort to present their claims as appropriate and to increase their pool of supporters (Samuels & Glantz, 1991; Sweda & Daynard, 1996).

In view of the above, the occurrence of protests by activist organizations represents a challenge for corporations, as their protests indirectly affect the ability of corporations to gain and mobilize supporters (McDonnell & Werner, 2016).

Therefore, we posit that protests by activist organizations compel corporations to counter-mobilize in an effort to maintain the status quo, however, corporations in a contested industry are obliged to do so by mobilizing Astroturf groups on their behalf instead of engaging in it themselves. Nevertheless, protests, which advance the corporations' positions, are a visible strategy that targets policymakers in an attempt to maintain the status quo through mobilizing constituent support. Thus, analogous to the prediction concerning activist organizations, as a baseline expectation we posit that:

Hypothesis 1b: Protests by Astroturf groups that represent corporations and aim to maintain the status quo decrease the probability of institutional change.

As mentioned before, protests involve interactions between movements and counter-movements around different claims (Earl, 2004), and constitute a strategy used to change institutions (Snow et al., 2013). Resource mobilization theory suggests that the efficiency of protests as a strategy to change institutions depends on the potential of the movement to gather and mobilize support (Amenta, Caren, & Olasky, 2005). However, in the case where both the social movement and the counter-movement use protests as a strategy to achieve institutional change, given that resources are limited, we expect the overall efficiency of protests to be diminished as the visibility and impact of the protests by each side lessens. In the context of this study, for example, anti-smoking groups emerged along with the perceived opportunity to enact laws given the assessment of smoking as a hazard to health (Nathanson, 1999). As anti-smoking groups have made their message more visible and have gained public support, they have hindered the ability of Big Tobacco to deter the advancement of laws that threaten the status quo, and have obliged Big Tobacco to use Astroturf groups to protest on their behalf. Simultaneously, though, the concealed participation of Big Tobacco in protests by relying on societal members whose claims are more in line with those of the general public (*i.e.* employees) or who appear to be more legitimate in the eyes of society

members (*i.e.* scientists) has helped Big Tobacco not only in its efforts to maintain the status quo, but also in visibly questioning the validity of the claims made by anti-smoking groups. Hence, when both sides of the smoking debate protest, their individual ability to gain public support and to foster further mobilization diminishes due to the reduced visibility of each protest and to the mixed claims conveyed by the protestors. In other words, when the protests of the social movement make an issue visible, they result in protests on the part of the counter-movement that confront their message, which lowers the effectiveness of the single protest, and *vice versa*. Thus, we formulate:

Hypothesis 2: The efficiency of protests by the social movement to influence institutional change is negatively moderated by the counter-movement's protests.

Campaign Contributions

Campaign contributions are an inconspicuous financial strategy linked to individual interests because through contributions actors articulate their demands in a more concealed or hidden form compared to protests. Campaign contributions have been identified as a financial strategy that targets policymakers through monetary incentives (de Figueiredo & Edwards, 2015). Therefore, we study campaign contributions as a strategy by which agents offer monetary incentives in an attempt to persuade policymakers to propose or (not) support a given policy (Baron, 2006). Research on the use of campaign contributions has looked at how corporations use financial incentives to influence legislators in diverse settings such as trade policy (Schuler, 1996), electric utilities (Bonardi, Holburn, & Vanden Bergh, 2006), and universities (Figueiredo & Silverman, 2006). Despite its importance, little attention has been paid to contributions by Big Tobacco, whereas Big Tobacco is known to expend substantial sums in offering monetary incentives to influence legislators.

By using campaign contributions, activist organizations and corporations engage directly with policymakers in a clear effort to shape laws that sustain and

advance their interests (Keim & Zeithaml, 1986). Campaign contributions by activist organizations are aimed at disrupting the status quo and contribute to the likelihood of institutional change by performing several functions. First, campaign contributions provide activist organizations access to the policy making process: “at the very least, contributors are more likely to have their phone calls returned” (Hall & Deardorff, 2006: 80). Thus, monetary resources are expected to buy attention from legislators, which gives access to the policy making process. Second, campaign contributions align the incentives of legislators with those of activist organizations. This is because contributions can provide useful support to legislators on matters that they care about, and by making a contribution, activist organizations assert their own interests on the same matter (Hillman & Hitt, 1999). Third, campaign contributions encourage policymakers to prioritize the claims of activist organizations over other antagonistic claims by recruiting the support of the policymaker (Baron, 2006). Thus, campaign contributions of anti-smoking groups have the potential to disrupt the status quo in order to influence the enactment of bans through financial incentives that persuade policymakers to support their claims. In other words, campaign contributions provide monetary incentives to policymakers to adopt the preferences or the claims of the anti-smoking groups. Based on the above, we expect as a starting premise that the more anti-smoking groups use campaign contributions, the more likely it is that legislators are sensitized to their claims, and hypothesize:

Hypothesis 3a: Campaign contributions by activist organizations increase the probability of institutional change.

Prior research has posited that policymakers are less willing to be associated with corporations that are targeted by activist organizations (McDonnell & Werner, 2016) and are more likely to support the claims put forward by actors that are considered to be legitimate in the eyes of societal members (Amenta et al., 2005). Given the threats to the legitimacy of corporations in contested industries, policymakers may avoid contributions from corporations in contested industries in

order to minimize the negative repercussions elicited by sustaining the industry's interests. In other words, policymakers may be less sympathetic to the campaign contributions of corporations in contested industries than to the contributions of activist organizations who are denouncing these corporations' products and/or actions. In the tobacco industry, evidence of this is the "Free from Tobacco Money" award, which is given yearly by ASH (Action on Smoking and Health), a non-profit anti-smoking organization that recognizes politicians who have not accepted Big Tobacco's contributions (ASH, 2014). Nevertheless, corporations remain a strong opponent for activist organizations in this respect, particularly because of having deep pockets that fund campaign contributions targeted at politicians that support the industry's efforts and which are aimed at maintaining the status quo.

Resource mobilization theory suggests that actors that have more resources at their disposal are those that are better able to achieve their goals and succeed (McCarthy & Zald, 1977). This, combined with the idea that resource imbalances affect an actor's potential to influence institutional change, suggests that during an episode of contention, the actor that controls the most resources is more likely to affect institutional change in its favor (Baumgartner et al., 2009). Thus, even in the face of tireless pressure for change from activist organizations, corporations are able to maintain the status quo by continuously making substantial campaign contributions. The strong interest of corporations in undermining institutional change is primarily financial. In the case of the tobacco industry, the significant resources that Big Tobacco expends in campaign contributions reflect its concern with the negative impact of tobacco control regulations on smoking rates, and thus, with the potential reduction in its profits as a consequence of a decline in the usage of tobacco products (Smith, Savell, & Gilmore, 2013). Hence, Big Tobacco remains able to secure (some of) its influence in the policymaking process by using its knowledge and experience in influencing public policy, and its substantial financial resources (Jacobson, Wasserman, & Anderson, 1997). Therefore, we posit that corporations attempt to maintain the status quo via significant campaign

contributions against the enactment of laws that negatively affect their business. Analogous to the prediction concerning activist organizations, as a baseline expectation, we predict:

Hypothesis 3b: Campaign contributions by corporations that aim to maintain the status quo decrease the probability of institutional change.

As argued before, both activist organizations and corporations have resorted to the use of conspicuous and inconspicuous strategies to either disrupt or maintain the status quo, and their efforts do not occur in a vacuum. In the specific case of campaign contributions, the effectiveness of contributions by corporations is threatened by the fact that policymakers are more likely to enact laws that directly represent the interests of society members, instead of laws that protect the interests of corporations in contested industries and that may be detrimental to the society (Hojnackia et al., 2015). Hence, unlike industries in which the interest of policymakers and corporations may be aligned, in contested industries the disparities between their interests depend on deeply held societal attitudes and concerns. For instance, given the history of lies and deception of the tobacco industry (Proctor, 2011), Big Tobacco's contributions may be discredited by some policymakers. Still, Big Tobacco is not fighting a lost battle, as the sizable resources it commands allow it to deter the enactment of laws by means of continuous and generous contributions to its allies. Therefore, movements and counter-movements are more likely to contribute to legislators that support their individual interests (Hall & Deardorff, 2006). However, when the campaign contributions made by a movement increase, the counter-movement may also attempt to contribute to legislators who have opposing interests to the movement's positions. In this case, the ability of the movement to recruit legislators not only requires higher monetary incentives, but may also be at stake, as legislators may simultaneously receive contributions from the counter-movement, which reduces the effectiveness of the specific contribution (Baron, 2006). Therefore, we posit that in the case where both the social movement and the counter-movement use campaign contributions as a strategy to achieve

institutional change, the efficiency of their individual contributions is diminished. Thus, we formulate:

Hypothesis 4: The efficiency of the campaign contributions by the social movement to influence institutional change is negatively moderated by the counter-movement's campaign contributions.

Lobbyists

Lobbying is the activity by which individuals representing an organization (*i.e.* lobbyists) convey information to policymakers with the objective of influencing institutional change (Baron, 2006). The use of lobbyists, thus, is an important strategy by which activist organizations and corporations attempt to influence institutions (Hillman & Hitt, 1999). Unlike protests but like campaign contributions, hiring lobbyists is an inconspicuous information strategy linked to the pursuit of private goals. That is, lobbyists seek to provide specific information directly to policymakers about the preferences of the group of societal members they represent. Moreover, lobbyists are also involved in providing information to policymakers on the potential impact of proposed regulations to persuade them to support their clients' claims. Although, lobbyists and campaign contributions are linked (Ansolabehere, Snyder, & Tripathi, 2002), by defining lobbyists independently from campaign contributions we are incorporating the distinct effects of information and financial strategies on institutional change (Hall & Deardorff, 2006; Hillman & Hitt, 1999). In the case of the tobacco industry, for instance, anti-smoking groups and Big Tobacco tend to use both strategies simultaneously, as campaign contributions have granted them access to the policymaking process and employing lobbyists has granted them influence over the policymakers. Therefore, we analyze these strategies separately, in an effort to contribute to a more nuanced understanding of each strategy and following the idea that "the point at which access ends and influence begins is the point at

which legislators adjust their beliefs on the basis of lobbying information” (Wright, 1996: 81).

Previous research has argued that lobbyists draw attention to how the goals of policymakers align with those of activist organizations, as such, hiring lobbyists is an attempt by activist organizations to benefit from the actions of like-minded policymakers that represent their claims (Roscoe & Jenkins, 2005). Prior research has shown lobbyists tend to concentrate their efforts on likeminded policymakers because lobbying is a relational strategy that involves reciprocity and trust (Hall & Deardorff, 2006). Thus, anti-smoking groups transmit information to policymakers about their claims by using lobbyists. That is, anti-smoking groups hire lobbyists to persuade policymakers to enact tobacco control regulations by highlighting the need to protect the public’s health and to reduce the burden of illness and deaths caused by tobacco use. As anti-smoking groups aim to reduce the risks associated with tobacco use, we expect anti-smoking groups to be able to persuade policymakers who are concerned with protecting public health of the need to enact tobacco control regulations. In fact, lobbying efforts related to health issues have been reported as a top priority for lobbyists, meaning that they are commonplace in the legislative system and more likely to resonate with policymakers (Baumgartner et al., 2009; Baumgartner & Leech, 2001). Moreover, the influence of the information transmitted by lobbyists about the consequences of a given policy has been found to be a strong predictor of enactment (Burstein, 2014). Hence, we argue that when the claims of lobbyists representing activist organizations are deemed as appropriate and consequential by policymakers, these lobbyist are more likely to be aided in their efforts by policymakers (RWJF, 2011). Hence, we expect as a starting premise that:

Hypothesis 5a: The number of lobbyists representing activist organizations increases the probability of institutional change.

Prior work has shown that lobbying efforts increase as the government’s activity on a specific issue intensifies (Leech et al., 2005). Hence, when the lobbyists representing activist organizations are raising an issue that is relevant for

corporations and for societal members, corporations are stimulated to defend their interests by means of employing lobbyists as well. Supported by the monetary resources they command, corporations have been known for dominating the lobbying landscape and for their ability to recruit lobbyists that become effective proponents of their claims (Kimball et al., 2012). This is especially so in the case of the tobacco industry, where Big Tobacco has hired numerous lobbyists to support their political allies to oppose the enactment of tobacco control regulations (ASH, 2014). Big Tobacco's lobbyists have transmitted a message focused on the rights and freedom arguments for smoking, and on the allegedly negative economic consequences to tobacco related businesses of the enactment of tobacco control regulations. In this sense, corporations are expected to use as much resources as possible in hiring lobbyists to persuade policymakers to oppose regulations that would negatively affect their business. In short, we posit that lobbyists that represent corporations potentially coax legislators not to enact a certain law by conveying information on the foreseeable negative impact of a law on business activities. Therefore, we hypothesize:

Hypothesis 5b: The number of lobbyists representing corporations that aim to maintain the status quo decreases the probability of institutional change.

Conflicting results on the effectiveness of lobbying efforts have been documented by prior research (Baumgartner et al., 2009). Although prior work has posited that on average actors who face no opposition are more likely to achieve their goals by lobbying (Hojnackia et al., 2015), it remains unclear who is more effective in the case when there is a dispute between the interests of corporations and activist organizations, and both rely on lobbyists. While corporations are perceived to be relatively more successful in their lobbying efforts, prior scholarly work has shown that corporations are more likely to be successful in the case where there is no opposition from other actors. However, in the face of opposition, corporations are less likely than activist organizations

to achieve their goals by lobbying (Hojnackia et al., 2015). This is because the conflict between activist organizations and corporations draws the public interest and attention, which then constrains the advantage of corporations in the policy making process by making the issue more salient and visible (Smith, 2000). Thus, the efficiency of using this strategy to achieve institutional change is negatively affected for both sides when the lobbying efforts of the social movement are challenged by the lobbying efforts of the counter-movement. Thus, we formulate:

Hypothesis 6: The efficiency of lobbyists representing the social movement to influence institutional change is negatively moderated by the counter-movement's lobbyists.

Contextual Influences

As the previous discussions highlights, protests, campaign contributions, and hiring lobbyists are strategies used by activist organizations and corporations that play a critical role in disrupting or maintaining the status quo, and in bringing about or repelling institutional change. However, the effectiveness of a strategy can depend on the specific characteristics of the state in which the strategy is used. In the case of study, for example, anti-smoking groups' success in persuading policymakers to enact tobacco control regulations has been closely tied to their ability to frame their claims in terms of the health cost of smoking. This is because smoking related health costs weigh heavily on the states' healthcare systems: "of every \$10 spent on healthcare in the U.S., almost 90 cents is due to smoking" (Xu, Bishop, Kennedy, Simpson, & Pechacek, 2016: 331). Hence, we posit that two framing strategies explain the ability of activist organizations to persuade policymakers to change the status quo: relevance and credibility. The former refers to the ability of activist organizations to effectively and strategically frame their claims by linking them to the economic benefits for the state. For example, relevance in the tobacco setting is evidenced by the fact that anti-smoking groups have framed their claims in relation to the substantial burden that smoking inflicts on

the state's health care institutions, especially on those that are funded by public tax dollars (Xu et al., 2016). Thus, relevance has been a crucial framing strategy for anti-smoking groups to portray their goals as being worthy of recognition and attention since their aim is to stop the costly 'tobacco epidemic' (Derry & Waikar, 2008; Nathanson, 1999). Credibility relates to the ability of activist organizations to gain public support from legitimate organizations that attests to the economic benefits of their claims. In the case of study, for instance, credibility is related to the ability of anti-smoking groups to gain public support not only from legitimate health organizations such as the American Lung Association or the American Cancer Society, but also from those societal members that are most impacted by and/or that are most aware of the health costs associated with smoking (*e.g.* medical professionals). These organizations reinforce the economic benefits related to the enactment of tobacco control regulations by emphasizing the 'true' costs of smoking as related to lost productivity and direct healthcare expenditures (ACS, 2015; SG, 2014). Hence, we expect that the strategies used by activist organizations to change institutions result in a greater impact when they are capable of steering the attention of policymakers to their claims (and undermine the claims made by corporations), by framing their claims as having a relevant and credible impact on the economy of the state. Based on this argument, we predict:

Hypothesis 7: The different strategies used by activist organizations will further increase the probability of institutional change for states in which the potential economic benefits of disrupting the status quo are higher.

As mentioned before, corporate counter mobilization takes place through strategies similar to those utilized by activist organizations, the differences being that corporations in contested industries face threats to their legitimacy which challenge their ability to maintain the status quo. However, the ability of corporations in contested industries to deter institutional change is facilitated when their interest in maintaining the status quo is aligned with the goals of policymakers

and society members (Smith, 2000). That is, we posit that the perception of alignment between the preferences of corporations and those of society members is a necessary condition for the efforts of corporations to be effective in persuading policymakers to maintain the status quo for two reasons. First, policymakers that aim to be reelected rely on voters for their election, thus, they are more inclined to support laws that are supported by societal members and to avoid laws that may result in low public credibility (Keim & Zeithaml, 1986). For example, it has been recognized that disparities between tobacco control regulations across states partly depend on societal attitudes towards smoking, as regulations in tobacco growing states (*e.g.* Kentucky) are less strict or widespread than regulations in states where smoking is less socially accepted (*e.g.* California).⁴ Second, policymakers represent their constituents, which means that they are more likely to support policies that are linked to the preferences of these constituents (de Guia et al., 2003). Therefore, a more significant influence of Big Tobacco in the legislative process can be expected in states with higher smoking rates given the resonance of their claims among society members (McVeigh et al., 2004; Pedriana, 2006). In other words, we argue that when the states' constituency supports the strategies of corporations to maintain the status quo, they favorably dispose policymakers towards the interests of corporations, which poses a significant threat to institutional change (Dhalla & Oliver, 2013; Oliver, 1991). Thus, we predict:

Hypothesis 8: The different strategies used by corporations will further reduce the probability of institutional change for states in which constituencies support maintaining the status quo.

Methods

Data Sources and Measures

We gathered state-level data from several data sources for the period 2000-2012. Specifically, during this period the number of states with comprehensive

⁴ Smoking Among Adults in 2013: 30.2% in Kentucky and 15% in California (McCarthy, 2014).

smoking bans increased from zero to 27 (see Figure 1). This period is especially relevant for our study because it allows us to minimize censoring problems in our models, as the first comprehensive smoking ban was enacted in 2002 and no comprehensive smoking ban has been enacted after 2012. Moreover, although during the period of study the tobacco industry in the US was operating under the conditions of the 1998 Master Settlement Agreement,⁵ the ‘tobacco wars’ in the U.S. are far from being over. In fact, contestation over the tobacco industry is still present, while some experts maintain that “America is still beholden to Big Tobacco” (Cohen, 2016), others contend that “investors and incorrigible puffers, are its last remaining friends” (Economist, 2014).

We use the state level of analysis not only because in the US the decentralization of politics allows exploiting between state differences, but also because the strategies studied are known to be more powerful at the state-level (Marquis, Guthrie, & Almandoz, 2012). In fact, prior research has proven the usefulness of state-level analyses when examining the expansion of laws in the US (McCammon et al., 2001; Schneiberg & Bartley, 2001; Soule & Olzak, 2004). Moreover, in the US, state legislatures are important arenas for tobacco control because they have the power to enact laws related to tobacco taxes, youth access to tobacco, and smoking bans, and to pass preemption laws.⁶ State legislatures are, however, prohibited from taking legal action on cigarette advertising.

Insert Figures 1 and 2 about here

Dependent variable. A comprehensive smoking ban is one that prohibits smoking in all restaurants, bars, and workplaces - with no exceptions - because these are the major venues of exposure to secondhand smoke for non-smokers (CDC,

⁵ In a nutshell, the MSA consists of protection against lawsuits in exchange for tobacco companies agreeing “(1) to pay the states annually and in perpetuity billions of dollars; (2) to restrict permanently their advertising, promotion, and marketing of cigarettes; and (3) to contribute \$1.5 billion to establish what has become the American Legacy Foundation, an entity dedicated to counter-advertising and public education against cigarette smoking” (National Association of Attorneys General, 2007).

⁶ Preemption restricts the power of local governments to enact tobacco control regulations.

2012a). Comprehensive smoking bans have been recognized to be the most effective tobacco control regulations, as they make smoking less attractive and less visible (SG, 2014). We cannot observe a states' probability of enacting a comprehensive smoking ban, instead, we only observe the actual enactment of a ban. Hence, we create a binary variable that takes the value of '1' for a state in a given year if a comprehensive smoking ban is enacted, and '0' otherwise. We collected data on the enactment of comprehensive smoking bans by US states from the State Tobacco Activities Tracking and Evaluation System and from the ANR Tobacco Control Laws Database (see Figure 2). Once a state enacts a comprehensive smoking ban it is excluded from the dataset. The sample consists of 540 state-year observations.

Independent variables. We model the probability of the enactment of a comprehensive smoking ban as a function of time-varying independent and control variables.

To test hypotheses 1a, 1b, and 2, we followed prior research that has commonly used the media as a source of protests event data (Earl, Martin, McCarthy, & Soule, 2004). We conducted a search for newspaper articles about tobacco related protests using Lexis-Nexis database and assembled the articles in 2014. In order to avoid possible selection bias in the reporting of protests, we did not focus on a single national outlet (*e.g.* The New York Times) as has been commonly done, but instead included articles from both national and state sources (*e.g.* Daily News, San Jose Mercury News, The Atlanta Journal-Constitution, The Denver Post, The Oklahoman, The Philadelphia Inquirer, The Washington Post, USA Today, among others). The combination of national and state sources has been recognized to be a more credible source of protests data when studying state-level protests (McAdam & Su, 2002). This triangulation of data sources is likely to result in more protests being reported, as protests closer to the media source are more likely to be covered than those further away (Earl et al., 2004; Inclán, 2008; Oliver & Maney, 2000). Moreover, using a combination of sources also attenuates description bias as it provides a more complete depiction of the protests (Earl et al., 2004; Soule,

2013).⁷ We operationalized protests as occurring when one of the following events took place: protests, strikes, riots, boycotts, marches, sit-ins, demonstrations, manifestations, attacks, rallies, vigils, occupations, campaigns, petitioning, or activism (Earl et al., 2003; King & Soule, 2007; Walker et al., 2008). An initial search on Lexis-Nexis using a combination of the search terms listed before and Boolean operators resulted in 909 newspaper articles. After similarity analysis to eliminate duplicated articles and after excluding articles that did not refer to public demonstrations or manifestations, the final sample resulted in 207 newspaper articles. All the retrieved articles were read to extract the relevant information on each protest (*i.e.* participants, state, year) and to validate that only protests that occurred before the enactment of a ban were included in the models. Each protest was coded as either anti-smoking or pro Big Tobacco based on the actors that initiated and participated in the protest and their claims (*e.g.* grievance or support). An anti-smoking protest includes, for instance, manifestations against smoking or calls to prevent tobacco use (see Figure 3). A protest by Big Tobacco is, for example, one in which demonstrators urge the defeat of a bill or light up cigarettes to campaign against laws that restrict their freedom of choice (see Figure 4). We utilize two state-level measures of protests in the analyses, the first measure is the count of anti-smoking protests and the second is the count of Big Tobacco's protests.⁸ To assess inter-coder reliability, a second coder read all the newspaper articles and coded each protest as either anti-smoking or Big Tobacco, the rate of interrater agreement (90.53%) suggests almost perfect agreement (Landis & Koch, 1977).⁹

⁷ Selection bias refers to the fact that not all protests are covered by a given source and what is covered may not be random. Description bias refers to how well the protests are described by a given source.

⁸ It is not possible to know the size of the protests. About 30% of the coded articles provide an indication of the number of participants, and less than 20% provide an exact or estimated number of participants.

⁹ As a rule-of-thumb, values greater than 75% represent excellent agreement beyond chance (Fleiss, Levin, & Cho-Paik, 2003). Disagreements occurred in the coding of 23 articles in

Insert Figures 3 and 4 about here

The Lobbying Disclosure Act of 1995 mandated corporations to disclose their federal lobbying practices. State legislatures followed suit and extensive data on lobbying activities at the state level are available from the National Institute on Money in State Politics (<http://www.followthemoney.org/>).¹⁰ We collected data on state-level campaign contributions and lobbyists from this institute by retrieving information listed under the tobacco, tobacco companies, and tobacco product sales categories. To test hypotheses 3a, 3b, and 4, we include a variable that captures campaign contributions at the state level (see Figure 5). Since this variable is highly skewed, we used the log-transformed measure in the analyses. To test hypotheses 5a, 5b, and 6, we include a variable that captures the number of lobbyists for both sides at the state level (see Figure 6). For both variables, campaign contributions and lobbyists, we classified actions either as anti-smoking or Big Tobacco based on the information on the industry and recipient provided. Specifically, activities by tobacco control groups are classified as anti-smoking, whereas activities by tobacco companies or by organizations involved or individuals employed in the tobacco business were categorized as Big Tobacco.

Insert Figures 5 and 6 about here

To test hypothesis 7 we interact anti-smoking protests, campaign contributions, and lobbyists with *health costs*. The *health costs* variable measures the capital expenditures on health expenses as a percentage of the general expenditures of a given state. This variable accounts for the potential economic benefits related to a lower incidence of smoking in a given state since it captures the state's expenditures on health costs associated with smoking. Data for this variable were gathered from the US Census Bureau. To test hypothesis 8 we interact Big

which either protests from both sides or splits in support were reported. These coding discrepancies were resolved by discussion.

¹⁰ Astroturf efforts – “in which the firm secretly subsidizes a group with similar views to lobby” (Lyon & Maxwell, 2004) – are not included as the disclosure of these efforts is not mandated.

Tobacco's protests, campaign contributions, and lobbyists with *smoking prevalence*. This variable measures the yearly percentage of adults who are smokers in a state and indicates the size of the market for cigarettes. Hence, this variable reflects societal preferences towards smoking as it directly captures the extent to which smoking is (or is not) a widespread habit in a given state. Data on cigarette smoking come from the CDC Behavioral Risk Factor Surveillance System.

Control variables. We include one-year lagged control variables in the models to better capture causality. First, we include the log of state tobacco related *tax collections* to capture the economic pressures against the enactment of laws derived from cigarette excise tax revenues. These data were obtained from the Tax Burden on Tobacco report (Orzechowski & Walter, 2014). Second, in order to control for the fact that the so-called "tobacco states" are less likely to enact smoking bans, we account for tobacco harvested area per state (acreage). Data for the *tobacco crops* variable were collected from the National Agricultural Statistics Service. Third, we control for the percentage of *sales to minors* in a given state. Data were obtained from the Annual Synar Report, a report that details trends in sales of tobacco to minors. Fourth, to capture the anticipation that liberal governments are more likely than conservative governments to support the enactment of comprehensive smoking bans (as the former tend to support the duty of government to intervene to protect public health, whereas the latter believe in the right of individuals to make their own choices), we control for *state ideology* by using the measure developed by Berry et al. (1998). Data are available at: <https://rcfording.wordpress.com/state-ideology-data/>. We also control for the anticipation that *democrats* are more likely than republicans to support the enactment of comprehensive smoking bans by controlling for unified democratic gubernatorial and legislative control of state government. Data were gathered from the US Census Bureau. Fifth, we include the potential for mobilization represented by a count of the number of tobacco related *social movements* in a state for a given year. The existence of social movements has been recognized to be a necessary

condition for influence, as the circumstances that spur the formation of social movements and that promote mobilization are also necessary for movements to gain influence (Amenta et al., 2010). Data for this variable were collected using annual volumes of the Encyclopedia of Associations from 1998 to 2012; we consulted yearly volumes in order to avoid the measure to be shaped by entries and exits (Walker, 2009). Sixth, to capture regional diffusion effects we compute the number of geographically contiguous states that had previously enacted comprehensive smoking bans by including a *neighboring effects* variable. This variable counts the number of states surrounding the focal state that have enacted a comprehensive smoking ban. Moreover, to tap into the states that have already enacted a ban, we include a variable that captures the *cumulative* number of comprehensive smoking bans previously enacted. Finally, to control for the visibility of protests, we include *media coverage*, a variable that counts the number of newspapers reporting a given protest. The models also include the *health costs* and *smoking prevalence* variables as controls, and a time trend variable to control for the upward sloping path of the dependent variable.

Model and Analyses

We use a probit model to estimate the probability of state i enacting a comprehensive smoking ban at time t , as follows:

$$P(y_{it} = 1|x_{it}) = \Phi(x'_{it}\beta) \quad (1)$$

The probability of the enactment of a comprehensive smoking ban is given by equation 1, where β is the vector of coefficients to be estimated and x_{it} is the vector of variables discussed in the previous section. As mentioned before, within this set of variables there are potentially endogenous variables. In particular, we identify protests as an endogenous variable given that protesting efforts, either by anti-smoking groups or Big Tobacco, may be driven by the expectation that a ban may (or may not) be enacted (Oliver & Maney, 2000). Although event history or hazard models have traditionally been used to estimate the likelihood of occurrence of an event, estimating the models without correcting for endogeneity will most likely

result in biased coefficients (Alvarez & Glasgow, 1999). To solve for the potential endogenous nature of the protest variable, we use a two-stage residual inclusion (2SRI) estimation method (Hausman, 1978; Terza, Basu, & Rathouz, 2008; Wooldridge, 2015), also known as a control function approach (Heckman & Hotz, 1989; Petrin & Train, 2010). The selection of the 2SRI estimation over traditional event history or hazard models is motivated by the possibility that some omitted variables that determine the probability of enacting a comprehensive smoking ban may be correlated with protests by anti-smoking groups or Big Tobacco.¹¹

The essential idea of the 2SRI estimation is that although there are some unobserved variables that may be correlated with protests by anti-smoking groups or Big Tobacco (*e.g.* the expectation of enactment of a ban), we can estimate these unobservables and thereby obtain consistent estimates for the probability of the enactment of a comprehensive smoking ban. To do so, the 2SRI estimation suggests a two-stage procedure: (i) estimate the endogenous variable(s) by regressing it on a set of independent variables that do not relate to the expectation of an enactment to obtain the residuals, and (ii) estimate the original regression with the inclusion of the residuals as additional explanatory variable(s) (Wooldridge, 2015). In short, to estimate the probit coefficients using 2SRI we first estimate the endogenous variable(s) (*i.e.* protests), then obtain the residuals from the first-stage regression, and add these residuals as an additional variable in the second-stage to estimate the probit equation. This two-step procedure allows for the estimation of unbiased coefficients using a nonlinear model (Terza et al., 2008).

In the first-stage, we model the endogenous variables (*i.e.* protests by anti-smoking groups $-y_{AS}-$ and Big Tobacco $-y_{BT}-$), as follows:

$$y_{AS} = \tau_{AS} + z'_{it}\pi_{AS} + u_{AS} \quad (2)$$

¹¹ Handling endogeneity in time hazard models is an issue under development. In particular, the suitability of the 2SRI approach for duration/survival models remains an open question. The results from the estimation of the Extended Cox model with correction for endogeneity are available from the authors. However, these results should be interpreted with caution.

$$y_{BT} = \tau_{BT} + z'_{it}\pi_{BT} + v_{BT} \quad (3)$$

where z_{it} is a vector of exogenous variables that have been identified as determinants of public protests by prior research, namely: population, GDP per capita, poverty rate, unemployment rate, size, and number of state legislators (Lehman-Wilzig & Ungar, 1985; Meyer, 2004; Snow, Soule, & Cress, 2005; Soule, Mcadam, McCarthy, & Su, 1999). State-level data for these variables were gathered from SAGE Stats. By running a regression for each of the two of the endogenous variables, y_{AS} and y_{BT} , on the aforementioned variables, z_{it} , we explain the exogenous variation in these variables. Next, we can consistently estimate the residuals of equations 2 and 3.

In the second-stage, we use the 2SRI estimator to correct for endogeneity by including the retained residuals (\hat{u}_{AS} and \hat{v}_{BT}) as additional variables with corresponding parameters to be estimated in equation 1, leading to:

$$P(y_{it} = 1|x_{it}, u_{AS}, v_{BT}) = \Phi(x'_{it}\beta + \hat{u}'_{AS}\delta + \hat{v}'_{BT}\theta) \quad (4)$$

The inclusion of the residuals in equation 4 accounts for endogeneity, and equation 4 results in unbiased and consistent estimates (Terza et al., 2008). We estimate the models using clustered standard errors to allow for correlation across observations within states.

It is worth noting that for nonlinear models the 2SRI estimation offers a consistent alternative implementation of the two-stage instrumental variable estimation (2SLS).¹² The 2SRI estimation is similar in spirit to the 2SLS estimation because not only does it consist of a two-stage procedure, but also because the first-stage of the 2SRI estimation is identical to that of the 2SLS estimation. The 2SRI estimation differs from the 2SLS estimation, however, because in the second-stage of the 2SRI the actual observed values of the endogenous regressors are retained,

¹² The 2SRI approach to control for the endogenous nature of explanatory variables has recently gained popularity, as more traditional approaches (*i.e.* instrumental variables) are limited in their applicability to nonlinear models. We refer the interested reader to Wooldridge (2015) for an excellent overview.

rather than their predicted counterpart, while the estimated residuals from the first-stage are also included to control for the unobserved confounders (Terza et al., 2008). Moreover, the 2SRI estimator does not necessitate an exogenous and relevant instrumental variable. As a result, the 2SRI estimation corrects for endogeneity in nonlinear models and produces consistent estimates by controlling for the variation in the unobserved factors that are not independent of the endogenous variable(s), so that the remaining variation in the endogenous variable(s) will be independent of the error (Petrin & Train, 2010).

Results

The descriptive statistics and correlations among the variables included in the analysis are shown in Tables 1 and 2. All correlations indicate that there are no multicollinearity problems in the data. As mentioned in the methods section, we use a 2SRI estimation procedure to test our hypotheses: the first-stage estimates protest by anti-smoking groups or Big Tobacco to recover the residuals entering in the second-stage probit model.

Insert Tables 1 and 2 about here

The first-stage estimates of the determinants of anti-smoking and Big Tobacco protests are reported in Table 3. From Table 3 we see that population size has the expected positive effect on protests by both groups (Lehman-Wilzig & Ungar, 1985). We also find that GDP per capita increases protests by anti-smoking groups. This result supports the central tenant of resource mobilization theory stating that resources facilitate protests (Snow et al., 2005), and for the specific case of study, provides evidence on the negative relationship between smoking and income (Humphreys, 2015). Moreover, we find that protests by Big Tobacco decrease with the size of the state and increase with the number of legislators. These findings suggest that the larger the state legislative structure, the greater the political opportunity for counter-mobilization by Big Tobacco (Soule et al., 1999). Lastly, we find no impact of the economic indicators included in the models (*i.e.* poverty and

unemployment rates). From these models, we obtain the residuals to be included in the main probit regression.

Insert Tables 3 and 4 about here

Table 4 reports the results of the probit estimates. The results are estimated using a 2SRI estimator where the residuals obtained from the first-stage regressions enter without transformation in the second-stage. When included, the residuals capture the endogenous part of the protests by both groups, or put differently, they capture the expectation that the respective actors have of the enactment of a comprehensive smoking ban. Models 1 to 12 present a series of nested models with the correction for endogeneity using the 2SRI estimator.¹³ Positive (negative) coefficients mean that the probability of the enactment of a smoking ban increases (decreases) with the focal variable. Marginal effects are evaluated by setting all other variables at their means (Hoetker, 2007).

Model 1 is the baseline model as it only includes the control variables. Most of the results for the control variables are consistent across models. We find that the probability of enacting a comprehensive smoking ban significantly increases with the health costs associated with smoking. According to the US Surgeon General, smoking costs the US more than \$300 billion a year, including \$170 billion in direct health care expenditures and \$156 billion in lost productivity (SG, 2014). Thus, the health care costs associated with smoking have an essential role in guiding governmental efforts to enact smoking bans. Moreover, the results suggest that the probability of enacting a comprehensive smoking ban decreases with smoking prevalence. This is because cigarette usage remains socially accepted in states with high smoking rates (*e.g.* Kentucky and West Virginia, 30.2% and 29.9% respectively in 2013), and thus, the public tends to oppose the enactment of bans; whereas in states with low smoking rates (*e.g.* Utah and California, 12.3% and 15% respectively in 2013), population attitudes toward cigarettes are more negative and

¹³ The results without correction are available from the authors; however, these results should not be used for interpretative purposes given the presence of endogeneity.

the public tends to favor the enactment of bans (RWJF, 2011). We also find that the probability of the enactment of a comprehensive smoking ban decreases with the production of tobacco, given the economic dependence of the focal state's economy on this crop (*e.g.* Kentucky and North Carolina). Furthermore, the results show that the probability of the enactment of a comprehensive smoking ban increases as the government's ideology moves from zero (the most conservative value) to one (the most liberal value). This finding is in line with the assumption that for conservative governments the ultimate responsibility for health lies with the individual, whereas liberal governments tend to regulate the behavior of individuals and organizations to protect and promote public health (Cohen et al., 2000). Finally, the results suggest that the scale of protests matters, as protests that are covered by several newspapers are more likely to foment institutional change.

Model 2 tests hypotheses 1a and 1b. This model shows the effect of protests by activist organizations and corporations on the probability of enactment of a law. We find evidence to support both hypotheses. On the one hand, we find that protests by activist organizations increase the probability of a law being enacted; specifically, one anti-smoking protest increases the probability of enactment of a comprehensive smoking ban by 11.2%. As the claims by anti-smoking groups become more visible and salient, their claims are deemed as less challenging or contentious and they grow and gain supporters to change the status quo. On the other hand, we find that the probability of a law being enacted decreases with protests by corporations; that is, one protest by Big Tobacco decreases the probability of enactment of a comprehensive smoking ban by 15%. This result reveals that the organization of a counter-movement is a powerful deterrent for the enactment of a law. As most of the protests by corporations occur when the regulative discussions are taking place, this result shows that when there is a real threat of change, reactive protests by corporations have the power to maintain the status quo. The results presented in Model 3 do not support hypothesis 2, as the interaction coefficient for

protests is not statistically significant. However, further support for hypotheses 1a and 1b is provided, as the main effects of the protests variables remain significant.

Model 4 introduces the campaign contributions by activist organizations and corporations to test their effect on the probability of a law being enacted. The results provide support for hypotheses 3a and 3b. They indicate that a 1% increase in campaign contributions by anti-smoking groups corresponds to an increase in the probability of enacting a ban by 0.3%, while a 1% increase in campaign contributions by Big Tobacco decreases the probability of enactment by 0.2%. These results suggest that anti-smoking groups are more efficient in their campaign contributions despite Big Tobacco's significant financial resources (see Figure 5). The test for hypothesis 4, presented in Model 5, shows that the interaction for the campaign contributions variables is not significant. However, although in this model the main effects of campaign contributions remain positive and significant for activist organizations, the marginal effect of campaign contributions by corporations disappears; which suggest that when both actors attempt to influence the enactment of regulations by means of campaign contributions, anti-smoking groups are more effective than Big Tobacco given their access to complementary external resources (*e.g.* governmental allies and favorable public opinion).

Models 6 introduces the number of lobbyists representing each side of the debate to tests hypotheses 5a and 5b. The results only provide support for hypothesis 5a and suggest that for each extra lobbyist that represents activist organizations, the likelihood of enactment of a comprehensive smoking ban increases by 0.4%. These results indicate that even though corporations have been widely known for their strong lobbying efforts, lobbyists that represent activist organizations are more successful in increasing the likelihood of enactment of a comprehensive smoking ban because their position is compatible with the government's mandate to protect public health. Model 7 presents the results of the interaction test for hypothesis 6. The interaction coefficient is negative and significant, which suggests that the

positive effect of anti-smoking lobbyists is reduced by 0.03% for each extra lobbyist working for Big Tobacco.

Models 8 and 9 present the effects of the moderation analyses testing the effects of contextual variables. For ease of comparison, we have included all control variables, main effects, and interactions. Model 8 includes the interactions of anti-smoking protests, campaign contributions, and lobbyists with the health costs variable. Model 9 includes the interactions of Big Tobacco's protests, campaign contributions, and lobbyists with smoking prevalence. Hoetker (2007) suggests that the interpretation of interaction terms in nonlinear models cannot be evaluated by simply looking at the coefficients, as their magnitude, sign, and significance can change across observations. Instead, given that the interaction effects depend on all the covariates in the model, the best practice is to provide a graphical interpretation (Hoetker, 2007). Therefore, Figures 7 and 8 provide a graphical presentation of the moderation analyses, and Figures 9 and 10 provide histograms that show the distribution of the moderator variables.

Figure 7 illustrates the moderation effects of health costs for anti-smoking protests, campaign contributions, and lobbyists. The first plot shows that the positive moderation effect of protests by anti-smoking groups on the probability of enactment of a comprehensive smoking ban is present in states where the health care costs of smoking are less than 5.5% of the state's general expenditures. Similarly, the second plot shows that health costs positively moderate the relationship between anti-smoking campaign contributions and the probability of enactment of a comprehensive smoking ban when health costs are between 1% and 4.5% of the state's general expenditures. In contrast, the third plot shows that health costs do not moderate the effect of lobbyists on the enactment of a law. Overall, Figure 7 provides support for the positive moderation effect of health costs stated in hypothesis 7 for the case of anti-smoking protests and campaign contributions. Given that in most states the health costs associated with smoking represent more than 1% and less than 6% of the state's general expenditures (see Figure 9), the

results suggest that the health care costs associated with smoking weigh heavily on the ability of anti-smoking groups to disrupt the status quo. These results are in line with empirical evidence showing that during the period of study, anti-smoking groups have made visible and salient the potential economic benefits (in terms of taxpayer dollars) of reducing smoking and exposure to second hand smoke (savings in health care costs for the state) by means of the enactment of smoking bans (CAN, 2011).

Figure 8 illustrates the moderation effects of smoking prevalence for Big Tobacco's protests, campaign contributions, and lobbyists. The first plot shows that smoking prevalence moderates the relationship between Big Tobacco's protests and the probability of enactment of a comprehensive smoking ban when the state's smoking rate is between 1% and 25%. Similarly, the second plot illustrates that smoking prevalence moderates the effect of Big Tobacco's campaign contributions on the probability of enactment of a comprehensive smoking ban for states where the smoking rate is lower than 25%. In contrast, the third plot shows that smoking prevalence does not moderate the effect of lobbyists on the enactment of a law. Given that most states have smoking rates lower than 25% (see Figure 10), the results suggest that societal smoking habits are important determinants of Big Tobacco's ability to maintain the status quo. Overall, these results provide support for hypothesis 8, which suggests that Big Tobacco's strategies are effective in deterring legislative change in states where constituencies support smoking.

Models 10 and 11 further test the simultaneous effects of protests, campaign contributions, and lobbyists by activist organizations and corporations. Model 10 presents the case in which each actor uses the strategy that is expected or associated with its traditional tactics to change institutions; namely, it presents the results when activist organizations use protests, and corporations use campaign contributions and lobbyists. Surprisingly, the results of this model are not significant. Therefore, the results of this model suggest that for actors aiming at either disrupting or maintaining the status quo, employing their traditional strategies does not prove to

be effective in fomenting institutional change. The results of model 11, which presents the results when activist organizations use campaign contributions and lobbyists, and corporations use protests, are statistically significant. Specifically, the results indicate that campaign contributions and lobbyists are effective strategies for activist organizations to encourage legislative change, and that protests are an effective strategy for corporations to discourage the enactment of laws. This unexpected finding suggests that actors are effective in fomenting institutional change when they adopt the strategy that has been traditionally used by its counterpart. Taken together, the results of models 10 and 11 suggest not only that it is important for actors that aim to change institutions to be able to use a wide range of strategies (including those in which their counterpart traditionally has had an advantage), but specifically, that if corporations are to maintain the status quo, constituency building strategies are more effective in deterring institutional change than financial or information strategies. These results are in line with Smith (2000), who argues that policymakers are more responsive to the preferences of society members when corporations show unity of claims or seem to have the same objective. This means that activist organizations are better able to influence policymaking when corporations show unity in their preferences, and in such instance, the capacity of corporations to exert an influence over policymaking through the use constituency building strategies is more effective in shaping institutional change than the use of other means of influence like financial or information strategies.

Model 12 presents the results of the full model. The results remain remarkably similar when compared to those of the nested models, although campaign contributions by Big Tobacco is no longer significant. Overall, the results provide substantial evidence that activist organizations and corporations use different strategies to change institutions. Specifically, they show that Big Tobacco's power to inconspicuously thwart the enactment of comprehensive smoking bans has decreased along with the changing societal perception of tobacco products, which

has led to Big Tobacco's dependence on the use of conspicuous means of influence. In contrast, anti-smoking groups have gained visibility and public support, which has strengthened both their conspicuous and inconspicuous impact on the legislative process. In other words, as knowledge about the health risks of smoking spreads, and as anti-smoking groups have gained ground to advance tobacco control regulations, Big Tobacco's influence on the legislative process has waned. Overall, the results illustrate how corporations counter-mobilize by imitating and adopting the strategies of activist organizations that are successful in changing institutions.

Robustness Checks

Insert Table 5 about here

In order to test for sensitivity of our results due to model choice, we performed several tests which are reported in Table 5. First, we re-estimated equation 4 including an interaction term between the residuals of equations 2 and 3 ($\hat{u}_{AS} * \hat{v}_{BT}$), as reported in model 1, Table 5. This interaction term allows for a joint effect of the residuals, which takes into account that either they may influence each other, or be driven by a common unobserved latent factor that may also influence the probability of the enactment (Wooldridge, 2015). Analogous to Petrin and Train (2010), we interpret the sign and significance of residuals. The residuals are significant and with the expected signs across models. In particular, the positive coefficient of the residual for protests by corporations ($\beta = 12.123$, p -value: 0.000) suggests that if corporations protest increase, it is more likely that the enactment of a law is to be expected. In contrast, the residual for activist organizations is negative ($\beta = -7.927$; p -value: 0.007), which suggests that these groups would protest less when there is a higher likelihood of enactment. We observe that our findings are robust to the inclusion of the interaction term between the residuals.¹⁴

¹⁴ We note that equations 2 and 3 do not allow for any cross-over effects, but given that we use the same set of regressors, the estimation of Zellner's seemingly unrelated regression or of a bivariate probit model would not yield different coefficients. Thus, including the correlation in the first stage of the model is not relevant.

Second, we checked whether the results would still hold with a different specification of the ideology variable. For this purpose, we used Berry et al. (2010) alternative nominate measure of government ideology which the authors argue is an improved measure of state ideology. The results reported in model 2, Table 5, are similar to those reported in model 12, Table 4. This implies that our analysis is not sensitive to changes in the measurement of ideology, which rules out the option that the specification of this variable influences the results.

Third, in an effort to further assess the interaction between activist organizations and corporations and their simultaneous actions to change institutions, we ran the full model including the deltas of protests (*i.e.* anti-smoking protests – Big Tobacco protests), campaign contributions (*i.e.* Big Tobacco contributions – anti-smoking contributions), and lobbyists (*i.e.* Big Tobacco lobbyists – anti-smoking lobbyists) instead of the level. The results are reported in model 3, Table 5. The results for protests shows that an increase in the gap of protest in favor of anti-smoking groups raises the probability of enactment of a comprehensive smoking ban by 10.4%, whereas an increase in the gap of campaign contributions in favor of Big Tobacco decreases the probability of enactment of a comprehensive smoking ban by 0.1%. A change in the gap of lobbyists has no effect. The results provide further support for the interaction between strategies and actors in the case of protests and campaign contributions.¹⁵

Fourth we test ran our moderation analyses with a different specification of the moderator variables. Model 4, table 5, presents the results of an alternative moderator variable for hypothesis 7. Instead of using health costs to measure the potential economic benefits of a smoking ban, we use Medicaid expenses. Data on total Medicaid spending were retrieved from the Henry J. Kaiser family foundation. Although Medicaid as a program mainly targets low income individuals, this measure directly relates to the state's expenses on smoking related diseases because

¹⁵ Alternatively, we tested the restriction of equality for the coefficients of these variables (Model 10). The results suggest that the coefficients are not equal (Protests: Prob > χ^2 = 0.000. Contributions: Prob > χ^2 = 0.008. Lobbyists: Prob > χ^2 = 0.060).

of the negative correlation between smoking and income (Goszowski, 2008). The results of the moderation analysis suggest that Medicaid expenses positively moderate both, anti-smoking protests and campaign expenditures, in states where the expenses are lower than 12.000 million per year (in our data, only California, Florida, and Texas have expenses higher than this figure). Model 5, table 5, presents the results of an alternative moderator variable for hypothesis 8. Instead of using smoking prevalence to capture tobacco's constituency influence, we use the yearly change of the Gross State Product (GSP) from tobacco-related businesses. Data on the GSP by industry were gathered from the U.S. Bureau of Economic Analysis. The results of the moderation analysis suggest that the percentage GSP change negatively moderates the impact of both, anti-smoking protests and campaign expenditures, on the probability of enactment of a comprehensive smoking ban; such that the efficiency of Big Tobacco's strategies increases as the industry's economic impact on a given state increases. Consequently, these results strengthen our confidence in the robustness of the chosen measures for the moderator variables.

Finally, we estimate our full model using a logit specification (Petrin & Train, 2010). Conventional wisdom suggests that probit and logit models give essentially similar results. The results obtained are presented in model 6, Table 5. The analysis yielded substantively similar results; all the coefficients have the same sign and significance levels, though some of the magnitudes slightly change because of expected scale differences. Thus, the results indicate that our model choice to analyze the enactments of a comprehensive smoking ban does not provide substantially different outcomes in comparison to other candidate models.

Discussion

Our study disentangles the impact of activist organizations and corporations as participants and actors of institutional change. It shows that both activist organizations and corporations shape the enactment of laws, and uncovers the strategies used by these movements and counter-movements to influence institutional change. The results show that activist organizations and corporations

shape institutions through conspicuous (*e.g.* protests) and inconspicuous (*e.g.* campaign contributions and lobbyists) strategies. Specifically, the results suggest that whereas both actors use conspicuous and inconspicuous strategies to influence institutional change, activist organizations are successful in their use of both strategies to disrupt the status quo. In contrast, given the threats to their legitimacy, corporations in contested industries are mainly successful in maintaining the status quo when using conspicuous strategies. Therefore, the study shows that actors use multiple strategies to change institutions, and as such, the influence of actors cannot be captured through examining a single strategy (Raaijmakers, Vermeulen, Meeus, & Zietsma, 2015). Furthermore, the results provide evidence that although constituency building has been considered the main strategy by which activist organizations aim to change institutions, and financial and/or information strategies have traditionally been linked with the attempts of corporations to influence institutions, in the face of changing societal expectations, the proven (in)effectiveness of these respective ‘traditional’ strategies for each actor does not support this belief anymore.

In the case of protests, the results highlight how the ability to mobilize and to receive public support is crucial for activist organizations and corporations to successfully protest. Specifically, the results show that anti-smoking groups have been successful in disrupting the status quo and have effectively persuaded policymakers to enact tobacco control regulations. Simultaneously, Big Tobacco’s reactive protests by Astroturf groups that mobilize on its behalf have been effective in thwarting the enactment of laws. However, given the threats to Big Tobacco’s legitimacy, Big Tobacco is forced to conceal its involvement in protests that confront the anti-smoking message. Therefore, the capacity of Big Tobacco’s protests to maintain the status quo is significantly dependent on the acquisition of allies that legitimize their claims and on gaining public support. Hence, the results shed light on the effectiveness of constituency building strategies to change institutions, especially for counter-movements that face a successful movement. In

other words, the results provide preliminary evidence for a life-cycle of protests, suggesting that for nascent movements protests are a successful strategy to disrupt the status quo, and that once the movement's claims gain visibility and public support, the efficiency of protests by the counter-movement to maintain the status quo increases.

With respect to campaign contributions, the results show that controlling resources is not a sufficient condition for actors to be able to influence institutions, and provide evidence that financial strategies are not as effective when the actor that controls the monetary resources faces threats to its legitimacy (Marquis & Qian, 2014; Walker & Rea, 2014). Specifically, the results show that when actors aim to advance a claim that goes against prevailing societal expectations, money is not enough to influence policymakers. In the tobacco industry, even though Big Tobacco commands more financial resources than anti-smoking groups, the latter are rooted in cultural and social structures that support their goals in the legislative process. Thus, we find limited support for the efficacy of Big Tobacco's campaign contributions. Hence, we posit that as a social movement gains prominence because of the alignment between its goals and the goals of policymakers, the relative power of the counter-movement is reduced, and thus, while it is still more powerful in terms of financial resources, its influence through campaign contributions diminishes.

Concerning lobbying, the results suggest that the influence of lobbyists on institutional change is dependent on having interests that are aligned with those of policymakers, as is the case for activist organizations. Put differently, the results show that in the face of legitimacy threats, lobbyists that represent corporations in a contested industry are less influential than those that represent activist organizations whose claims are deemed as socially acceptable and aligned with the interests of policymakers. In the tobacco industry, anti-smoking groups have been successful in hiring lobbyists that frame their claims as being compatible with the preferences of societal members, and thus, their claims resonate with policymakers. In contrast, for

corporations, the ability to align their claims with the priorities of policymakers is paramount, but Big Tobacco has been unable to do so given the increasing negative societal perception of the industry. These results are in line with work that has found little impact of corporate lobbying efforts on institutional change (Baumgartner et al., 2014).

A preliminary insight into the adjusted efficiency of protests, campaign contributions, and lobbyists by the social movement conditional upon the level of each of these tactics by the counter-movement yields no apparent conclusion. This, though, does not exclude more complex and intricate forms of dependency of the efficiency of the use of each strategy by the social movement based on the use of the same strategy by the counter-movement. In other words, the preliminary results for the adjusted efficiency of each strategy do not exclude that the efforts of activist organizations are contingent upon the efforts of corporations and *vice versa*. Nevertheless, as the moderation analyses suggest, societal preferences are important determinants of corporations' ability to maintain the status quo, while the ability of activist organizations to disrupt the status quo is deeply linked to the use of framing strategies that highlight the relevance and credibility of their claims by linking them to economic benefits for the state. That is, given that often times the interests of corporations are opposed to those of activist organizations, their parallel actions result in a contested field where activist organizations aim to challenge the status quo, while corporations seek to preserve the status quo. In this fragmented system, policymakers tend to be more responsive to the preferences of activist organizations, whilst the preferences of corporations are less likely to prevail (Smith, 2000).

Together, the results raise awareness of the interconnectedness of actors and strategies engaged in institutional change. That is, our results illustrate that the actions of corporations aiming to change institutions take place within industries alongside the efforts of activist organizations (Edelman et al., 2010; Weber & King, 2013), and that the characteristics of the environment in which these actors operate shape their potential to change institutions. Moreover, our results contribute to the

literature by illustrating that actors use conspicuous strategies like constituency building (*e.g.* protests), and inconspicuous strategies such as financial (*e.g.* campaign contributions) and information (*e.g.* lobbyists) tactics to influence institutional change in their favor (Hillman & Hitt, 1999). Interestingly, our results show that money and lobbyists are not as effective in bringing about or deterring institutional change as constituency building is, which leads us to believe that the ability of actors to influence institutional change in their favor comes more so from being able to attract and mobilize public support, and less so from having deep pockets or from controlling an army of lobbyists.

Limitations and Future Research

The dependent variable is the enactment of a comprehensive smoking ban, thus, the models explain the final outcome of the legislative process. However, future research could divide the legislative process into different phases (*i.e.* agenda setting, passage, enactment, and possible repeal) in order to shed light on how the identified actors and strategies affect each phase separately and possibly differentially (Soule & King, 2006). Furthermore, our data collection efforts end in 2012; although no comprehensive smoking ban has been passed since then, it could be interesting for future research to study the states in which protests, campaign contributions, and/or lobbyists have not resulted in the enactment of comprehensive smoking bans.

Our level of analysis is the state. Although the state is a relevant level of analysis for the reasons mentioned above, future research could disaggregate the influence of each actor and strategy at a more local level, since in states where there is no preemption there may be a difference between city, county, and state laws (Vasi, Walker, Johnson, & Tan, 2015). Using the city or the county as the level of analysis may also allow researchers to uncover the local conditions or configurations that alter the rate at which states pass anti-smoking laws. Moreover, the change of level of analysis could also shed light on the differential effectiveness of various

strategies in the enactment of local bans and possibly enhance our understanding of the micro processes of institutional change.

As mentioned before, in our analysis we defined two main sides (*i.e.* anti-smoking groups and Big Tobacco), each of which is comprised by various independent actors. Although we identify substantial different stances on tobacco control regulations *between* these groups, future research may disentangle variations *within* these groups to identify how differences in legitimacy, power, or resources, or the use of intra-coalition strategies, lead to different outcomes, as some actors within each group may be more efficient than others in bringing about institutional change.

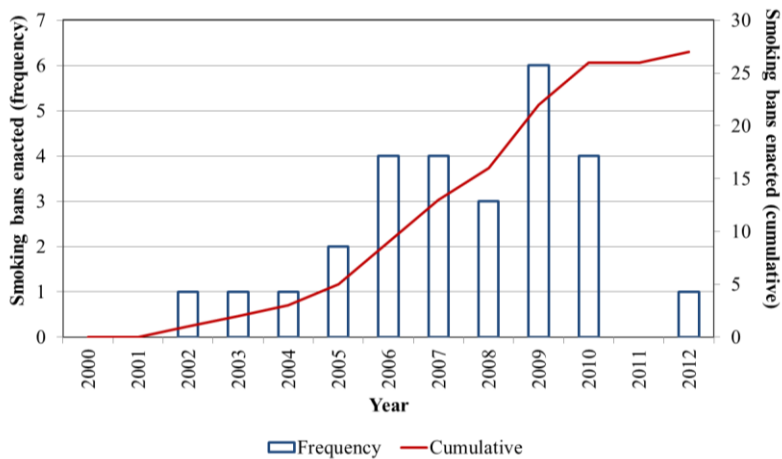
There has been little research connecting institutional change to the simultaneous actions of activist organizations and corporations. This is partly because institutional change may result from a multitude of causes. Although we control for several factors that may have an effect on institutional change, we may have not fully considered all possible influences on the probability of enacting laws, as actors can certainly use other parallel strategies in order to change institutions, such as CSR and litigation. These strategies also target institutions but we do not include them in our study for two reasons. First, in the tobacco industry CSR contributions can also be understood as tax deductible expenses which result in disclosure issues because corporations are not obliged to report charitable contributions (Tesler & Malone, 2008). Thus, CSR contributions are potentially problematic in the context of study since big Tobacco is known for using creative ways to disguise their efforts and to exert influence out of the public sight. Second, as Polleta (2000) posits, it is hard to uncover the role of litigation in relation to the efforts of activist organizations and corporations because litigation is primarily used after the enactment of laws has taken place (Amenta et al., 2010). Nonetheless, future efforts that uncover the influence of actors in advancing or hindering institutional change by relational strategies that directly engage policymakers to discuss and craft legislation or to influence their voting, along with the differential

impact of these and other non-market strategies such as CSR or litigation on institutional change, would be beneficial.

Finally, despite the fact that the tobacco industry displays a number of unique features that make it different from other non-contested industries, its structure is relatively similar to that of other contested industries that exhibit increased concentration, face extensive regulations, and exert political influence through extensive lobbying efforts mainly by the largest actors in the industry. Thus, our results are mainly generalizable to other contested industries such as weapons and arms, alcohol, or gambling, *etc.* The results could also be generalizable to contentious issues where there are two sides: on one side, a rich corporation aiming to preserve the status quo or to manipulate institutions in its favor, and on the other side, society members aiming to disrupt the status quo and urging for institutional change. Furthermore, the results are generalizable to situations where regulators have the capacity to legislate and face opposite demands; on the one hand, a corporate actor that may be harmed by a change in the status quo, and on the other hand, a social movement interested in bringing about institutional change. The results have limited generalizability, though, to issues where society members fight against the government, since in that case there is no clear counter-movement led or funded by corporations. Moreover, the results have limited generalizability to industries that do not operate across borders, as in the case of study, the tobacco industry was allegedly able to alleviate some of the national pressures by partly shifting its efforts abroad. Overall, although our study of the tobacco industry may be somewhat of a “polar type” when compared to other industries, the mechanisms that we uncovered have implications for scholars whose interests center on contestation, social movements, and non-market strategies. In addition, though we believe that the tobacco industry is particularly suited for exploring the strategies used by different actors to influence institutions, given the particular features of this industry, the generalizability of our findings to other non-contested industries needs to be established by future research. Lastly, besides the issue of generalizability, we

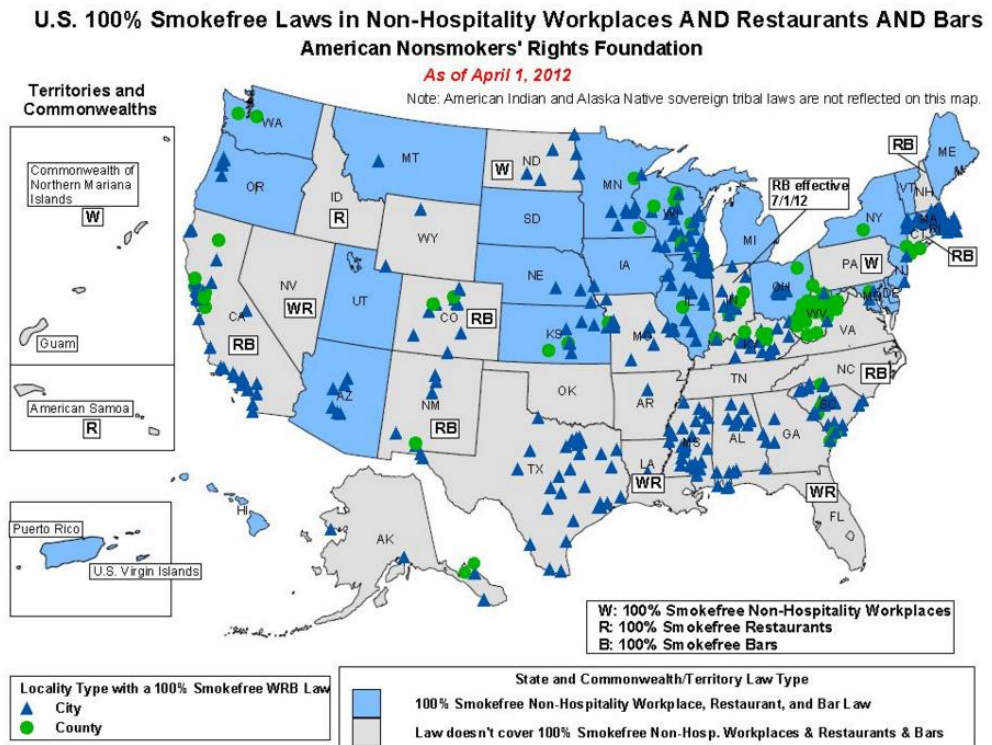
believe that there is value in studying the tobacco industry in its own right given its considerable size, global presence and reach, as well as the health and other consequences of its products. That has been hardly done in management scholarship.

Figure 1: State-level comprehensive smoking bans enacted by year



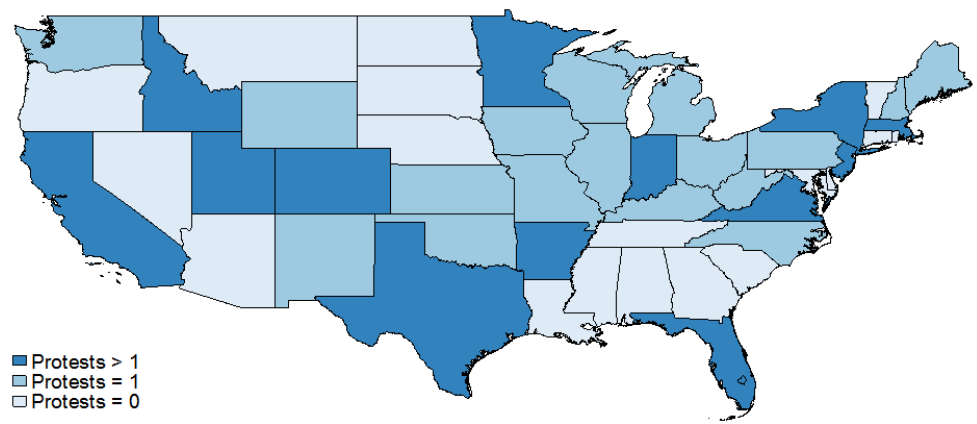
Source: ImpacTeen Database.

Figure 2: Comprehensive smoking bans in the US by 2012



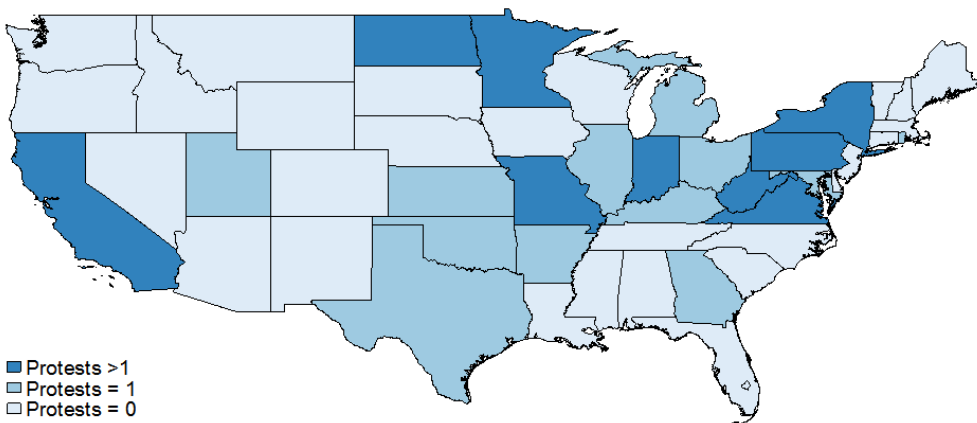
Source: www.no-smoke.org

Figure 3: Anti-smoking protests by state between 2000 and 2012



Source: own calculations¹⁷

Figure 4: Big Tobacco protests by state between 2000 and 2012



Source: own calculations¹⁸

¹⁷ In each, Alaska and Hawaii, there was only one protest by activist organizations.

¹⁸ Neither in Alaska nor in Hawaii were there protests by corporations.

Figure 5: Total tobacco-related campaign contributions by state between 2000 and 2012

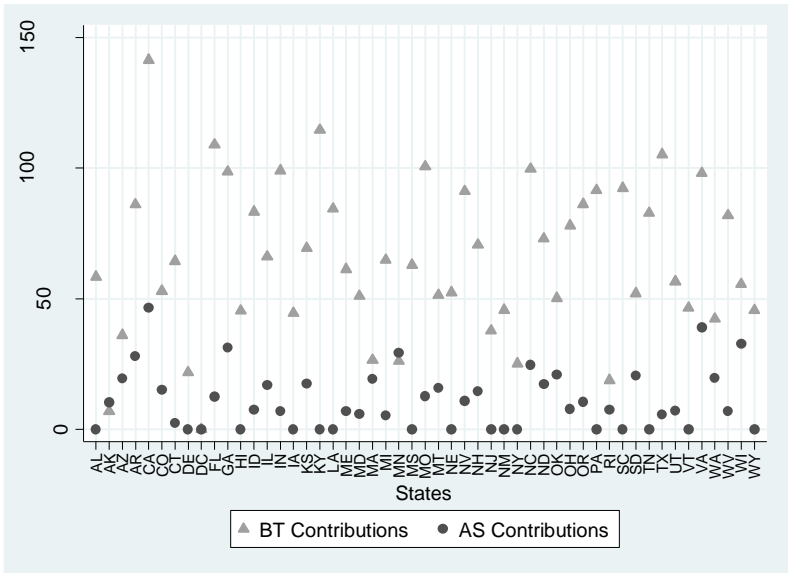


Figure 6: Total tobacco-related lobbyists by state between 2000 and 2012

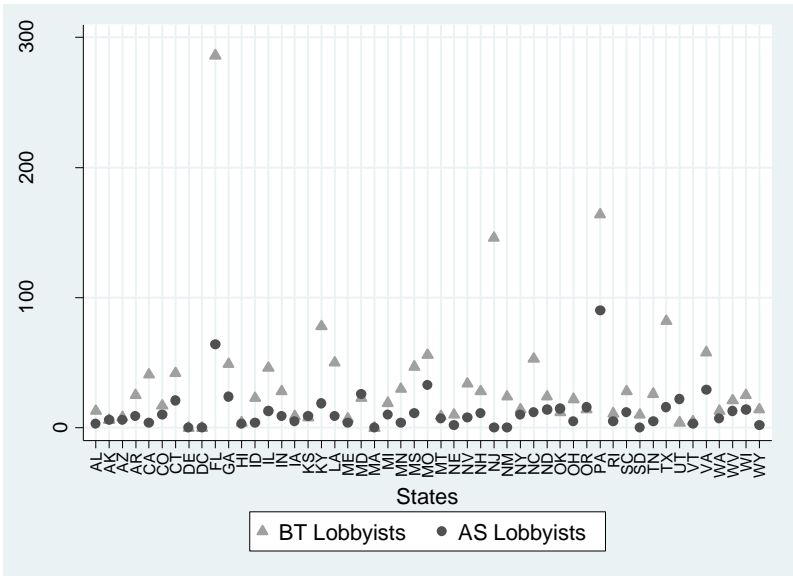


Figure 7: Average marginal effects of anti-smoking strategies with 95% CIs (Health costs)

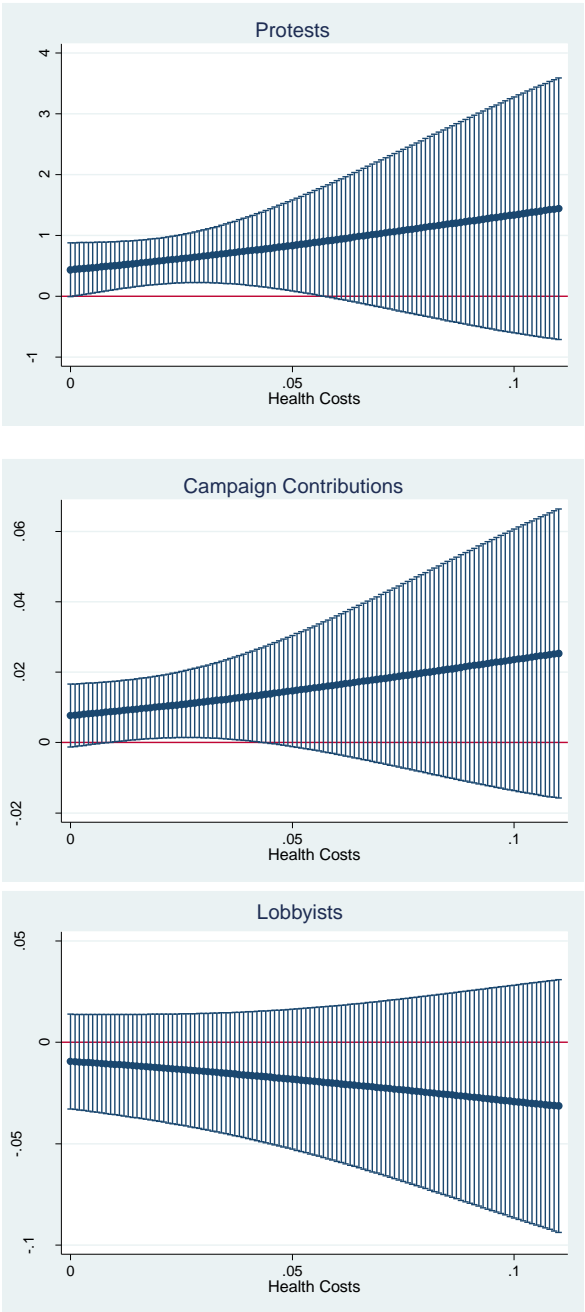


Figure 8: Average marginal effects of Big Tobacco strategies with 95% CIs (Smoking rate)

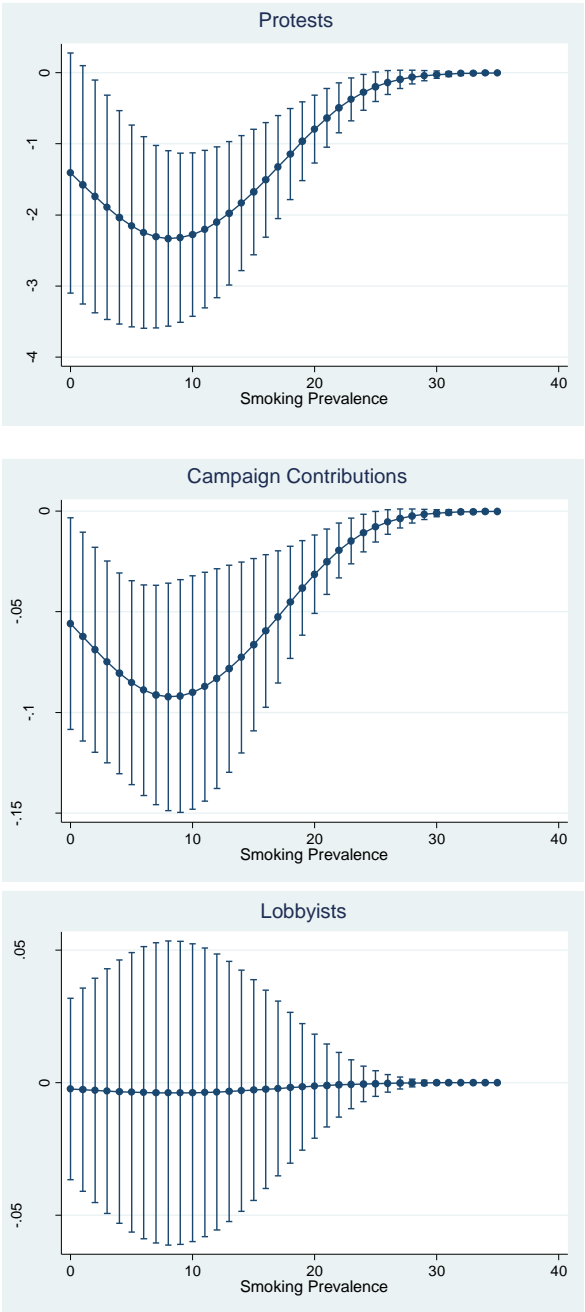


Figure 9: Health costs histogram

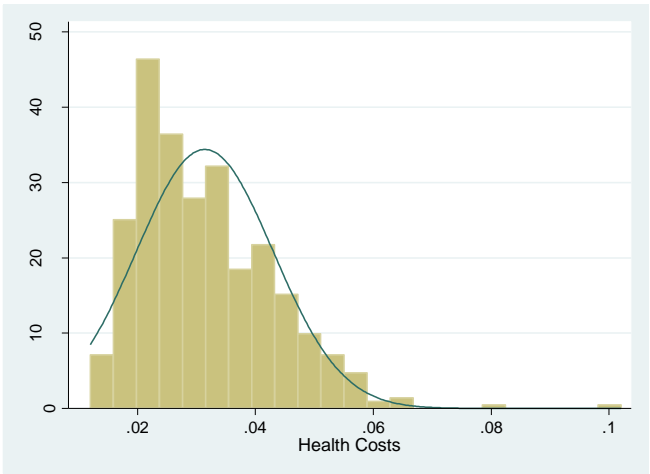


Figure 10: Smoking prevalence histogram

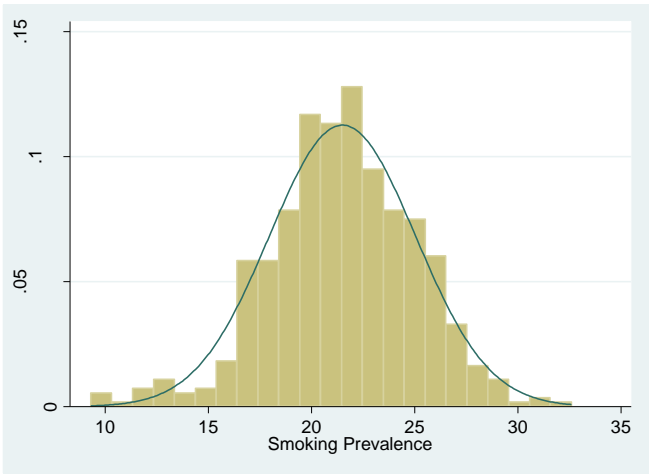


Table 1: Descriptive Statistics

	Obs	Mean	Std. Dev.	Min	Max
<i>Protest Anti-Smoking</i>	540	0.119	0.356	0	2
<i>Protests Big Tobacco</i>	540	0.080	0.389	0	6
<i>Contributions Anti-Smoking</i>	540	1.025	2.810	0	12.892
<i>Contributions Big Tobacco</i>	540	6.122	5.616	0	18.045
<i>Lobbyists Anti-Smoking</i>	540	1.156	2.357	0	19
<i>Lobbyists Big Tobacco</i>	540	3.270	6.942	0	48
<i>Health Costs</i>	489	0.031	0.012	0.012	0.102
<i>Smoking Prevalence</i>	489	21.682	3.481	9.3	32.6
<i>Tax Collections</i>	489	18.382	2.491	0	21.166
<i>Tobacco Crops</i>	489	2.696	4.286	0	12.086
<i>Sales to Minors</i>	489	14.924	7.977	1.6	55.8
<i>State Ideology</i>	482	46.509	27.525	0	97.5
<i>Democrats</i>	489	0.552	0.498	0	1
<i>Social Movements</i>	489	1.851	2.304	0	18
<i>Neighboring Effects</i>	489	0.149	0.425	0	3
<i>Cumulative Bans</i>	489	7.959	8.763	0	26
<i>Media Coverage</i>	489	0.078	0.477	0	6
<i>Population</i>	540	0.593	0.682	0.049	3.804
<i>GDP per Capita</i>	540	10.708	0.232	10.277	12.068
<i>Poverty Rate</i>	540	0.123	0.033	0.055	0.222
<i>Unemployment Rate</i>	540	5.617	2.062	2.3	14.7
<i>Size</i>	540	0.008	0.01	0	0.067
<i>Number of Legislators</i>	540	148	63	0	424

Table 2: Correlations

First-stage variables	1	2	3	4	5	6
1. Population	1					
2. GDP per Capita	0.063	1				
3. Poverty Rate	0.135*	-0.258*	1			
4. Unemployment	0.237*	-0.062	0.413*	1		
5. Size	0.125*	0.180*	-0.049	0.137*	1	
6. Number of Legislators	0.138*	-0.232*	-0.168*	-0.036	-0.278*	1

Second-stage variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Protest Anti-Smoking	1																
2. Protests Big Tobacco	0.106*	1															
3. Contributions Anti-Smoking	0.015	-0.023	1														
4. Contributions Big Tobacco	0.036	-0.006	0.346*	1													
5. Lobbyists Anti-Smoking	-0.011	0.191*	0.136*	0.127*	1												
6. Lobbyists Big Tobacco	0.131*	0.076	0.062	0.106*	0.586*	1											
7. Health Costs	0.026	-0.043	0.049	-0.023	0.075	-0.043	1										
8. Smoking Prevalence	-0.110	0.011	-0.148*	-0.025	-0.167*	-0.105*	-0.064	1									
9. Tax Collections	-0.029	0.099*	0.091*	0.179*	0.183*	0.191*	-0.051	-0.269*	1								
10. Tobacco Crops	-0.062	-0.014	0.016	0.080	0.151*	0.088	0.263*	0.087	0.146*	1							
11. Sales to Minors	0.041	-0.001	-0.102*	-0.160*	-0.229*	-0.186*	0.167*	-0.220*	0.071	0.057	1						
12. State Ideology	0.030	-0.022	0.022	0.035	-0.014	0.006	0.000	0.200*	0.017	-0.087	0.171*	1					
13. Democrats	0.018	0.004	0.042	0.005	-0.006	0.045	-0.080	-0.136*	-0.074	0.047	-0.299*	-0.114*	1				
14. Social Movements	0.096*	0.210*	0.033	0.025	0.010	0.070	0.050	0.193*	0.151*	0.125*	0.056	0.010	0.162*	1			
15. Neighboring Effects	-0.047	-0.001	0.024	0.010	0.073	0.063	-0.177*	0.067	-0.066	-0.135*	0.039	-0.032	-0.034	-0.082	1		
16. Cumulative Bans	-0.075	-0.047	0.077	0.216*	0.233*	0.136*	-0.249*	0.162*	0.006	-0.474*	-0.018	-0.010	-0.111*	-0.302*	0.222*	1	
17. Media Coverage	0.019	0.243*	0.048	0.018	0.112*	0.158*	-0.058	0.097*	-0.027	-0.018	0.025	-0.026	-0.024	0.087	0.044	0.067	1

Note: * correlations are significant at the .05 level

Table 3: First-stage results. Drivers of the occurrence of protests

	Protest Anti-Smoking	Protests Big Tobacco
<i>Population</i>	0.076** (0.033)	0.102** (0.040)
<i>GDP per Capita</i>	0.246*** (0.085)	0.101 (0.076)
<i>Poverty Rate</i>	-0.680 (0.610)	0.223 (0.471)
<i>Unemployment Rate</i>	-0.006 (0.007)	-0.001 (0.006)
<i>Size</i>	-2.076 (1.385)	-1.327* (0.748)
<i>Number of Legislators</i>	-0.000 (0.000)	0.000* (0.000)
<i>Constant</i>	-2.394** (0.937)	-1.144 (0.884)
Observations	540	540

Robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table 4: Second-stage results. Drivers of enacting a comprehensive smoking ban

	Model 1 Controls	Model 2 Protests	Model 3 Interaction	Model 4 Contributions	Model 5 Interaction	Model 6 Lobbyists	Model 7 Interaction
<i>Protest Anti-Smoking</i>		7.331*** (2.688)	7.076** (2.868)				
<i>Protests Big Tobacco</i>		-9.754*** (2.352)	-10.941*** (2.791)				
<i>Contributions Anti-Smoking</i>				0.092*** (0.033)	0.161** (0.081)		
<i>Contributions Big Tobacco</i>				-0.040* (0.024)	-0.034 (0.025)		
<i>Lobbyists Anti-Smoking</i>						0.122*** (0.044)	0.220*** (0.074)
<i>Lobbyists Big Tobacco</i>						-0.014 (0.022)	0.014 (0.018)
<i>Interaction term</i>			0.504 (1.325)		-0.007 (0.008)		-0.008*** (0.003)
<i>Health Costs</i>	20.233** (9.096)	21.440* (12.539)	21.646 (13.206)	-0.013 (0.070)	20.503** (8.705)	0.009 (0.061)	19.679** (9.199)
<i>Smoking Prevalence</i>	-0.092*** (0.032)	-0.104*** (0.040)	-0.113*** (0.043)	0.010 (0.106)	-0.097*** (0.033)	-0.066 (0.121)	-0.073** (0.034)
<i>Tax Collections</i>	-0.007 (0.105)	0.301* (0.175)	0.296 (0.181)	-0.114*** (0.036)	-0.003 (0.105)	-0.142*** (0.044)	-0.098 (0.122)
<i>Tobacco Crops</i>	-0.094** (0.041)	-0.082 (0.059)	-0.083 (0.064)	-0.008 (0.025)	-0.098** (0.038)	-0.005 (0.025)	-0.121*** (0.039)
<i>Sales to Minors</i>	-0.006 (0.026)	-0.012 (0.030)	-0.013 (0.031)	0.011*** (0.004)	-0.003 (0.027)	0.012*** (0.004)	-0.003 (0.026)
<i>State Ideology</i>	0.011** (0.004)	0.014** (0.006)	0.016** (0.006)	0.250 (0.232)	0.012*** (0.004)	0.214 (0.226)	0.012*** (0.004)
<i>Democrats</i>	0.276 (0.243)	0.287 (0.260)	0.406 (0.263)	21.531** (8.635)	0.228 (0.242)	17.511** (8.776)	0.155 (0.224)
<i>Social Movements</i>	-0.027 (0.076)	-0.034 (0.086)	0.007 (0.086)	0.327* (0.196)	-0.028 (0.074)	0.375* (0.203)	-0.012 (0.069)
<i>Neighboring Effects</i>	0.277 (0.190)	0.194 (0.206)	0.238 (0.214)	-0.072 (0.053)	0.259 (0.188)	-0.089 (0.060)	0.300 (0.204)
<i>Cumulative Bans</i>	-0.086 (0.057)	-0.058 (0.063)	-0.064 (0.067)	0.376*** (0.137)	-0.069 (0.055)	0.391*** (0.129)	-0.045 (0.058)
<i>Media Coverage</i>	0.389** (0.157)	0.331** (0.151)	0.400** (0.160)	0.376*** (0.137)	0.383*** (0.142)	0.391*** (0.129)	0.376** (0.151)
<i>Constant</i>	-2.408 (1.985)	-8.658*** (2.989)	-8.674*** (3.184)	-4.564** (1.887)	-2.260 (1.825)	-3.497* (2.111)	-0.946 (1.990)
Time Trend	Included	Included	Included	Included	Included	Included	Included
Residuals		Included	Included				
Observations	482	482	482	482	482	482	482

Clustered robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

	Model 8 AS Health Costs	Model 9 BT Smoking Prevalence	Model 10 Conspicuous AS Inconspicuous BT	Model 11 Conspicuous BT Inconspicuous AS	Model 12 Full Model
<i>Protest Anti-Smoking</i>	11.137*** (3.351)	7.232** (3.012)	2.262 (2.382)		7.558*** (2.877)
<i>Protests Big Tobacco</i>	-9.884*** (3.479)	-10.607*** (3.307)		-6.445*** (2.410)	-10.243*** (2.913)
<i>Contributions Anti-Smoking</i>	0.196** (0.087)	0.121*** (0.037)		0.081*** (0.031)	0.108*** (0.036)
<i>Contributions Big Tobacco</i>	-0.043 (0.030)	-0.047 (0.031)	-0.016 (0.021)		-0.044 (0.029)
<i>Lobbyists Anti-Smoking</i>	-0.243 (0.251)	0.122** (0.047)		0.089** (0.043)	0.107** (0.046)
<i>Lobbyists Big Tobacco</i>	-0.002 (0.021)	0.016 (0.016)	0.001 (0.015)		0.001 (0.018)
<i>Moderation Protest</i>	-145.667*** (55.612)	0.012 (0.067)			
<i>Moderation Lobbying</i>	-2.850 (2.313)	0.023*** (0.007)			
<i>Moderation Lobbyists</i>	10.247 (6.366)	0.002 (0.008)			
<i>Health Costs</i>	14.096 (14.827)	18.714 (12.101)	21.693** (10.313)	13.140 (8.461)	17.282 (11.675)
<i>Smoking Prevalence</i>	-0.148*** (0.046)	-0.119*** (0.042)	-0.078** (0.037)	-0.126*** (0.036)	-0.104*** (0.040)
<i>Tax Collections</i>	0.066 (0.206)	0.136 (0.191)	-0.031 (0.133)	0.126 (0.190)	0.198 (0.192)
<i>Tobacco Crops</i>	-0.170*** (0.049)	-0.149*** (0.057)	-0.101** (0.046)	-0.094** (0.039)	-0.122** (0.048)
<i>Sales to Minors</i>	-0.004 (0.033)	0.001 (0.031)	-0.006 (0.024)	-0.004 (0.033)	-0.005 (0.031)
<i>State Ideology</i>	0.025*** (0.005)	0.023*** (0.005)	0.011** (0.005)	0.016*** (0.004)	0.020*** (0.005)
<i>Democrats</i>	0.270 (0.243)	0.232 (0.243)	0.330 (0.237)	0.035 (0.206)	0.110 (0.219)
<i>Social Movements</i>	-0.043 (0.107)	0.021 (0.082)	-0.066 (0.083)	0.053 (0.073)	-0.023 (0.086)
<i>Neighboring Effects</i>	0.260 (0.242)	0.300 (0.234)	0.252 (0.191)	0.286 (0.196)	0.238 (0.221)
<i>Cumulative Bans</i>	0.005 (0.064)	-0.002 (0.068)	-0.081 (0.058)	-0.031 (0.058)	-0.001 (0.061)
<i>Media Coverage</i>	0.468*** (0.127)	0.433*** (0.144)	0.397** (0.156)	0.307** (0.139)	0.355** (0.142)
<i>Constant</i>	-3.327 (3.518)	-5.527* (3.264)	-2.503 (2.083)	-3.755 (3.022)	-6.420** (3.245)
Time Trend	Included	Included	Included	Included	Included
Residuals	Included	Included	Included	Included	Included
Observations	482	482	482	482	482

Clustered robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 5: Robustness Checks

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<i>Protest Anti-Smoking</i>	6.970** (2.942)	6.714** (2.832)	8.626*** (2.479)	7.232** (3.012)	8.592*** (2.826)	11.911** (6.004)
<i>Protests Big Tobacco</i>	-11.272*** (3.159)	-9.952*** (2.829)		-10.607*** (3.307)	-11.151*** (3.511)	-18.380*** (5.481)
<i>Contributions Anti-Smoking</i>	0.114*** (0.036)	0.099*** (0.036)	-0.045* (0.026)	0.121*** (0.037)	0.111*** (0.039)	0.193** (0.077)
<i>Contributions Big Tobacco</i>	-0.048 (0.030)	-0.040 (0.029)		-0.047 (0.031)	-0.062** (0.029)	-0.087 (0.060)
<i>Lobbyists Anti-Smoking</i>	0.123*** (0.046)	0.103** (0.043)	-0.019 (0.023)	0.122** (0.047)	0.136*** (0.043)	0.164 (0.123)
<i>Lobbyists Big Tobacco</i>	0.018 (0.016)	0.001 (0.017)		0.016 (0.016)	0.004 (0.020)	0.005 (0.043)
<i>Moderation Protest</i>				-0.000 (0.000)	-0.001 (0.032)	
<i>Moderation Lobbying</i>				-0.000 (0.000)	0.001 (0.001)	
<i>Moderation Lobbyists</i>				0.000 (0.000)	0.003** (0.001)	
<i>Health Costs</i>	18.582 (12.183)	16.016 (11.899)	21.255* (12.538)	14.096 (14.827)	17.703 (12.401)	27.077 (24.896)
<i>Smoking Prevalence</i>	-0.118*** (0.042)	-0.110*** (0.041)	-0.095** (0.040)	-0.148*** (0.046)	0.017 (0.010)	-0.221** (0.099)
<i>Tax Collections</i>	0.148 (0.191)	0.235 (0.189)	0.277** (0.132)	0.066 (0.206)	0.151 (0.182)	0.432 (0.447)
<i>Tobacco Crops</i>	-0.144*** (0.054)	-0.117** (0.047)	-0.094 (0.058)	-0.170*** (0.049)	-0.173*** (0.053)	-0.217* (0.121)
<i>Sales to Minors</i>	-0.001 (0.031)	-0.002 (0.032)	-0.008 (0.028)	-0.004 (0.033)	-0.015 (0.025)	-0.028 (0.084)
<i>State Ideology</i>	0.023*** (0.005)	0.022*** (0.006)	0.017*** (0.006)	0.025*** (0.005)	0.024*** (0.006)	0.037*** (0.011)
<i>Democrats</i>	0.236 (0.240)	0.088 (0.223)	0.350 (0.276)	0.270 (0.243)	0.288 (0.256)	0.127 (0.511)
<i>Social Movements</i>	0.009 (0.093)	-0.022 (0.086)	-0.062 (0.081)	-0.043 (0.107)	0.038 (0.083)	-0.024 (0.229)
<i>Neighboring Effects</i>	0.301 (0.234)	0.225 (0.212)	0.193 (0.213)	0.260 (0.242)	0.272 (0.249)	0.481 (0.452)
<i>Cumulative Bans</i>	0.001 (0.067)	-0.014 (0.057)	-0.049 (0.067)	0.005 (0.064)	0.034 (0.065)	-0.025 (0.141)
<i>Media Coverage</i>	0.431*** (0.143)	0.330** (0.134)	0.374*** (0.136)	0.468*** (0.127)	0.539*** (0.138)	0.664** (0.271)
<i>Constant</i>	-5.586* (3.277)	-7.054** (3.147)	-8.552*** (2.999)	-5.527* (3.264)	-8.193*** (3.116)	-12.020 (7.418)
Time Trend & Residuals	Included	Included	Included	Included	Included	Included
Observations	482	482	482	482	482	482

Clustered robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

CLEARING THE SMOKE: COERCIVE PRESSURES, LEGITIMACY, AND PERFORMANCE IN THE US TOBACCO INDUSTRY^a

Abstract

This study investigates the relationship among coercive pressures, legitimacy, and performance. Using data from a contested industry yielded four major findings. First, the results show that coercive pressures decrease performance. Second, the results indicate that coercive pressures negatively impact legitimacy. Third, the results suggest that legitimacy is positively related to performance. Finally, the results show that legitimacy mediates the effect of coercive pressures on performance, but only when coercive pressures are also a source of normative pressures. All together, the results of this study extend our understanding on how coercive pressures influence legitimacy and in turn impact the performance of the industry. This paper's contribution to the theory is three-fold. First, we revisit the concepts of coercive pressures and legitimacy, and suggest that an undifferentiated usage of these concepts limits both their theoretical as well as their empirical usefulness. Second, we empirically test a core argument from institutional theory, namely, the profound influence that coercive pressures and legitimacy have on industry performance. Third, we contribute to the conceptualization of the legitimacy of contested industries, which has been inadequately studied up to date.

^a This chapter is the result of joint work with Tal Simons.

Introduction

Ever since the publication of the 1964 and 1986 US Surgeon General reports on smoking and health, a significant number of states in the US have enacted tobacco control regulations that represent a major change in the institutional environment of Tobacco Companies (hereafter TCs). The changes in the institutional environment in which TCs operate have been brought about not only by coercive pressures in the form of tobacco control regulations, but also by threats to TCs' legitimacy owing mainly to the awareness of smoking and health issues such as the addictive and disease causing nature of cigarettes. While the institutional environment has grown increasingly hostile to TCs' business, cigarette sales have declined (Jones, 1997). In this context, we aim to examine the relation between coercive pressures, legitimacy, and performance by answering the following question: how do increasing coercive pressures affect legitimacy, and how does that in turn influence industry performance?

To answer this question we draw on the institutional theory literature. A core claim of institutional theory is that organizations need legitimacy if they are to thrive. This, together with the claim on the profound influence that coercive pressures have on legitimacy, suggests that legitimacy mediates the relationship between coercive pressures and performance (Scott, 2008). However, this mediated relationship has been ignored in prior research, as most prior work has focused on the direct effect of each of these concepts on performance (Heugens & Lander, 2009). We attempt to shed light on this relationship by theoretically distinguishing apart the concepts of coercive pressures and legitimacy, and by empirically disentangling their effects on performance. Thus, our work advances prior research that has conceptually examined the relationship between these concepts (*e.g.* Aldrich & Fiol, 1994; Bitektine, 2011; Deephouse & Suchman, 2008; Hayes, 2009; Miller, Glick, & Washburn, 2013; Scott, 2008; Suchman, 1995; Zimmerman & Zeitz, 2002), by providing much needed theoretical clarity and empirical support.

In this paper, we examine coercive pressures, legitimacy, and performance, and evidence the mediation of legitimacy on the relationship coercive pressures and

performance, in a contested industry. Contested industries are those whose social credibility and acceptability are highly variable, and thus, confront societal disagreements over their right to exist and periods of variation in societal approval. In other words, contested industries face recurring challenges and questions to their legitimacy (Galvin et al., 2005). The study of contested industries like tobacco (Hsu & Grodal, 2015; Simons et al., 2016), arms (Durand & Vergne, 2015; Vergne, 2012), and gambling (Galvin et al., 2005), is particularly interesting given the fact that contestation endangers the legitimacy of the industry as a whole (Galvin et al., 2005). For instance, with the increasing enactment of tobacco control regulations that portray smoking as a risky or undesirable activity, the legitimacy of the tobacco industry has been questioned or challenged, and the performance of the industry has also been threatened, as illustrated in the following quote: “most smokers want to quit, (...) they are extremely ambivalent about their habit” (Spinney, 2007: 1508). In this study, therefore, we contribute to the conceptualization of contested industry legitimacy by identifying legitimacy as the mechanism by which coercive pressures have an impact on performance, and by demonstrating that legitimacy protects performance from the financial penalties of illegitimacy (Zuckerman, 1999) and from the influence of coercive pressures (Scott, 2008).

Empirically we study the US tobacco industry, which we argue is a contested industry mainly for three reasons. First, the strategies used by TCs to get people to smoke have been openly and recurrently questioned (WHO, 2007). Second, there is an increasing societal support for tobacco control regulations, which has “helped transform the idea of regulation from controversial to common sense” (Layton, 2009). Third, the enactment of tobacco control regulations along with the negative societal perception of the products TCs’ produce, market, and sell, has led to a downward trend of smoking prevalence (see Figure 1). However, even though smoking is less accepted by some societal members than it used to be, smoking is a right and a matter of personal freedom for some other societal members (Nathanson, 1999). Hence, the tobacco industry is of interest not only because during the last decades it has been challenged by the multiplicity of values and beliefs that surround

it, but also because it is an established industry with a history of deception, lies, and manipulation (Proctor, 2011). Moreover, tobacco plays an important role in the economy of the US, the world's leader tobacco producer (CDC, 2012b), as tobacco taxes represent a significant source of income for the government (in 2010 the US government collected \$17.3 billion in tobacco taxes (Orzechowski & Walter, 2014)). Despite the fact that the tobacco industry has faced recurrent and substantial legitimacy threats and that its economic importance is undeniable, it remains understudied. Consequently, the tobacco industry provides a suitable setting to test some of the fundamental premises of institutional theory in an established contested industry.

Insert Figure 1 about here

Our contribution to the literature encompasses theoretical as well as empirical aspects. First, we revisit the concept of coercive pressures and suggest that an undifferentiated usage of this concept limits both its theoretical as well as its empirical usefulness. In this study, therefore, we contribute to the literature by including a fine-grained look at coercive pressures. Second, we focus our efforts on disentangling and separating the effects of coercive pressures and legitimacy. Hence, we expand institutional theory research by showing the importance of conceptually and empirically telling apart these concepts. Third, we empirically test a core argument from institutional theory, namely, the important influence that coercive pressures and legitimacy have in controlling and constraining performance. That is, we contribute to the theoretical conceptualization of contested industry legitimacy, which has been inadequately investigated to date, and we also extend previous work by testing the performance consequences of legitimacy in an established contested industry (Galvin et al., 2005).

Theory and Hypotheses

Empirical Setting

As mentioned before, the empirical setting for our study is the US tobacco industry, which we argue is a contested industry. The contested nature of this

industry relates to the fact that tobacco has been characterized as an epidemic by the WHO (2009). This classification corresponds to smoking being the leading cause of preventable death (tobacco kills up to half of its users) and the second major cause of mortality worldwide (tobacco use is associated with the death of about one in ten adults) (WHO, 2013). As a result, the fight against smoking has been a top public health priority for governments. In the US, however, significant anti-smoking legislation was not enacted until after the late 20th century. In fact, during the first half of the 20th century, “the ever increasing number of cigarette smokers took the habit because it was pleasurable, a pleasure aided by its cheapness and convenience” (Gately, 2001: 211). Although the popularity of smoking was challenged during the second half of the 20th century with the publication of the 1964 Surgeon General report on smoking and health, and the 1986 Surgeon General report on the health consequences of involuntary smoking, most state governments only introduced tobacco control regulations in the 21st century. These tobacco control regulations were aimed at protecting nonsmokers, particularly children, from the consequences of involuntary exposure to second hand smoke, and simultaneously, to reduce tobacco consumption amongst smokers by discouraging smoking in public places. That is, different states in the US enacted regulations to increase control of smoking by stressing the dangers of smoking for smokers and non-smokers alike. At the same time, tobacco control regulations influenced the social acceptability of smoking by portraying it as a hazard and by shifting “control from the smoker to the nonsmoker, and placing the burden of showing that smoking is permitted on the smoker” (Jacobson et al., 1997: 90). Nevertheless, many states still resist the enactment of tobacco control regulations because of attitudes about individual freedom to smoke prevailing over validating society’s freedom from secondhand smoke, or because of concerns that their actions might have harmful economic consequences (Andersen et al., 2006).

A significant turning point for the US tobacco industry occurred in 1998 when the four largest TCs at the time (*i.e.* Philip Morris Inc., R. J. Reynolds, Brown & Williamson and Lorillard) signed the Master Settlement Agreement (MSA) along

with the Attorneys General of 46 states. In a nutshell, the MSA consists of protection against lawsuits in exchange for the TCs agreeing “*(1) to pay the states annually and in perpetuity billions of dollars; (2) to restrict permanently their advertising, promotion, and marketing of cigarettes; and (3) to contribute \$1.5 billion to establish what has become the American Legacy Foundation, an entity dedicated to counter-advertising and public education against cigarette smoking*” (National Association of Attorneys General, 2007). In spite of the benefits accrued to the industry through entering the MSA, the major shifts in the regulatory environment along with the increasing negative societal perception of the TCs due to their conspiracy to deny the hazards of tobacco (Proctor, 2011), have obliged TCs to use a wide number of strategies to maintain their performance. Some tactics used by the TCs to counter the increasingly hostile domestic environment have been to diversify by marketing their products heavily in low and middle income countries that are not well prepared to tackle tobacco control or whose governments are more willing to endorse the TCs (Brandt, 2007). Moreover, after intense unrelated diversification efforts during the last decades of the 20th century, TCs have undergone intensive divestments of their non-cigarette products in order to de-emphasize the association of those businesses with tobacco. For instance, in 1999 Nabisco divested its holdings in R.J. Reynolds Tobacco and in 2007 Philip Morris spun-off Kraft Foods. Before the spun-off, in 2003, Philip Morris had changed its name to Altria Group in order to distance itself from its cigarette maker label, and in 2008 Altria spun-off its international division (Philip Morris International) to have freedom from the constraints of the US environment. These fundamental transformations of the tobacco industry illustrate that the industry has responded to the increasing pressures it faces using a wide range of tactics in order to maintain the demand for its products (Jones, 1997). However, the central problem that still confronts the tobacco industry is the effect of increasing coercive pressures and threats to its legitimacy on its performance.

Hypotheses

In this paper, we study whether some of the basic premises of institutional theory hold in the face of contestation and empirically test some of the core concepts of the theory in a contested industry. Specifically, we aim to shed light on how coercive pressures and legitimacy simultaneously influence performance. We do so by defining coercive pressures as an antecedent of legitimacy, which in turn is a precursor of performance. Since our interest is in contributing to the conceptualization of contested industries, the relevant level of analysis is the industry.¹ The concepts of study operate at the industry level not only because coercive pressures are “filtered, framed and enforced” within industries (Greenwood, Raynard, Kodeih, Micelotta, & Lounsbury, 2011: 322), but also because industries are bounded by shared and evolving threats to their legitimacy (Scott, 2008). Put differently, the collection of organizations that operate in the same industry face identical coercive pressures and legitimacy threats (Scott & Meyer, 1991). Therefore, we assess the relationship between coercive pressures, legitimacy, and performance at the level of the industry. Before developing the hypotheses, we define each of these concepts.

Institutional pressures are “the pressures for change in practices exerted on industry members by the industry’s external stakeholders” (Dhalla & Oliver, 2013: 1). Within institutional pressures, regulative, normative, and cultural-cognitive pressures have been identified (Scott, 2008). Although regulative, normative, and cultural-cognitive pressures can be mutually reinforcing (Scott, 2008; Thornton & Ocasio, 1999), we focus on examining the differential effect of coercive pressures on performance. We do so because of the predominance of regulatory processes in contested industries in general, and because of the increasing coercive pressures in our empirical setting in particular. By doing so, we follow the characterization proposed by Oliver (1991), according to whom institutional pressures are exerted on industries either by legal coercion or enforcement, or by voluntary diffusion. In the

¹ From an institutional theory perspective, we study the organizational field, which is defined as “those organizations that, in the aggregate, constitute a recognized area of institutional life” (DiMaggio & Powell, 1983: 148).

latter case, institutional pressures occur by means of voluntary spread through the industry (Oliver, 1991). In the former case, which is the focus of this study, coercive pressures emanate from the government, and are embodied in regulations (Goodstein, 1994) that are the result of nationwide cultural processes (Meyer, Boli, Thomas, & Ramirez, 1997) and of imitation processes (Dobbin, Simmons, & Garrett, 2007). In the tobacco industry, for example, the similarity across the tobacco control regulations enacted by different US states stems from the fact that these regulations emerged primarily from actions impelled by social movements and counter-movements across different states, and were diffused by imitation of the tobacco control regulations enacted by other states. For instance, after Delaware (2002) introduced a workplace smoking ban, New York (2003), Massachusetts (2004), and Washington (2005) adopted similar bans (Song, 2011). Hence, by studying increasing coercive pressures we aim to uncover the specific outcomes in terms of legitimacy and performance associated with these pressures (Oliver, 1991).

From an institutional theory perspective, legitimacy is defined as “a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions” (Suchman, 1995). According to institutional theory, legitimacy matters for the success and survival of organizations (Tolbert & Zucker, 1983). Prior research on legitimacy has mainly studied how organizations acquire or gain legitimacy (Baum & Oliver, 1992; Dobrev, Ozdemir, & Teo, 2006; Elsbach & Sutton, 1992; Human & Provan, 2000; Li, Yang, & Yue, 2007; Petkova, Rindova, & Gupta, 2012; Suddaby & Greenwood, 2005; Volberda, van der Weerdt, Verwaal, Stienstra, & Verdu, 2012; Wry, Lounsbury, & Glynn, 2011; Zott & Huy, 2007), maintain or preserve their legitimacy (Aldrich & Fiol, 1994; Desai, 2011; Durand & McGuire, 2005; Elsbach, 1994; Lamin & Zaheer, 2012; Marcel & Cowen, 2013; Pfarrer, Decelles, Smith, & Taylor, 2008; Ruef & Scott, 1998; Suchman, 1995), develop their legitimacy (Haveman, Habinek, & Goodman, 2012; Sine, David, & Mitsuhashi, 2007; Sine, Haveman, & Tolbert, 2005), or lose their legitimacy (Ashforth & Gibbs, 1990; Jonsson, Greve, & Fujiwara-Greve, 2009). Despite

previous efforts to understand how new organizations gain legitimacy (Überbacher, 2014; Zimmerman & Zeitz, 2002) and how legitimacy protects organizations from failure (Singh, Tucker, & House, 1986), the effect of coercive pressures on legitimacy has been overlooked (Scott, 2008) and little work has explored legitimacy dynamics in established contested industries (Galvin et al., 2005). Therefore, we provide evidence on how changes in societal evaluations of appropriateness resulting from coercive pressures can significantly affect performance.

Although the concept of performance is central to strategy research by being the “ultimate measure of success” (King & Walker, 2014), the critical importance of coercive pressures and legitimacy to performance has thus far received little research attention. We note that research in the intersection of institutional theory and strategy can contribute to the understanding of the institutional determinants of performance by conceptualizing industries as subject to coercive pressures and legitimacy threats (Martin, 2014). Hence, we take a broader view of strategy by taking into account the institutional forces that influence performance, and we shed light on how industries ought to understand the effect of coercive pressures and legitimacy threats if they are to maintain their performance (Vaara & Durand, 2012). Next, we develop our hypotheses and establish how legitimacy mediates the relationship between coercive pressures and performance in established contested industries.

Coercive Pressures

Coercive pressures structure the behavior of organizations and their interactions within a given industry; as a result, they have the power to alter an industry’s legitimacy and performance. Coercive pressures impact organizations by “setting rules, monitoring compliance, and sanctioning behavior” (Heugens & Lander, 2009). According to North (1990: 9), coercive pressures are “always a mixed bag of those that induce productivity increase and those that reduce productivity”; that is to say, coercive pressures can either enable or constrain the organizations in a given industry. Those that enable organizations create

opportunities or facilitate actions. In contrast, those that constrain organizations control and limit the realm or scope of their activities by defining legally available actions. Although all industries reflect a combination of enabling and constraining pressures, in terms of the total pressures that contested industries are subject to, those that constrain behaviors account for a larger portion of the total than those that enable their actions. In contrast, in other industries, a larger portion of the total pressures tends to favor their activities. Therefore, in this study we look primarily at the effect of increasing coercive pressures on contested industries in order to develop a clear understanding of how the accumulation of these pressures exerts both a direct and an indirect effect on performance. Specifically, we posit that increasing coercive pressures indirectly impact performance by creating widely shared beliefs about what is deemed legitimate (Wade, Swaminathan, & Saxon, 1998). Simultaneously, the accumulation of these pressures exerts a direct effect by defining how the industry should function. For example, tobacco control regulations directly harm TCs' performance by limiting TCs' strategies, either by restricting their potential target market (*e.g.* youth access laws) or by delimiting the occasions of consumption of cigarettes (*e.g.* smoking bans).

The direct impact of increasing coercive pressures on the performance of contested industries is different than the effect of pressures aimed at protecting industries from competition or at maintaining the stability of a given industry, because in the latter two cases the pressures implicitly support the industry, which is not so in the case of contested industries. Thus, given that in contested industries increasing coercive pressures control or restrict the availability of resources and limit the strategies available for the participants, the accumulation of these pressures has a direct negative effect on performance (Oliver, 1991). In the case of study, for example, TCs' performance has been threatened by the accumulation of tobacco control regulations that make salient the risks associated with smoking (Miles, 1982). Hence, tobacco control regulations have the power to affect TCs' performance since they result from the awareness of smoking as a risk factor, and

from the assessment of smoking as a social problem because of the negative externalities that it generates (*e.g.* second hand smoke).

In sum, in the specific case of contested industries, increasing coercive pressures represent a threat to their autonomy and efficiency (Oliver, 1997). Specifically, increasing coercive pressures can severely influence performance as they attempt to further restrict the range of strategies available for a given industry (Dowling & Pfeffer, 1975), which interferes with the industry's ability to operate effectively (Deephouse & Carter, 2005). In the tobacco industry, for instance, tobacco control regulations directly affect TCs' performance by regulating the use of tobacco products and what TCs are to do (Alamar & Glantz, 2006). Therefore, we expect increasing coercive pressures to have a significant negative impact on performance (Edelman et al., 2010). This leads to the first hypothesis:

Hypothesis 1: Increasing coercive pressures are negatively related to industry performance.

Legitimacy

As mentioned before, increasing coercive pressures create widely shared beliefs about what is deemed legitimate (Wade et al., 1998). Previous research has found that, in general, industries that are more visible and dependent on external resources suffer greatly from the legitimacy threats derived from accumulating coercive pressures (Dowling & Pfeffer, 1975; Edelman, 1990). This is because legitimacy is a necessary condition for visible industries to secure access to scarce resources (Dowling & Pfeffer, 1975). Both factors, visibility and dependence on external resources, make contested industries especially vulnerable to legitimacy threats derived from increasing coercive pressures. In the specific case of the tobacco industry, for instance, TCs' visibility emanates from two sources: i) their size ("in 2010 the combined profits of the six leading tobacco companies was \$35.1 billion, equal to the combined profits of Coca-Cola, Microsoft, and McDonald's" (Eriksen, Ross, & Mackay, 2012: 57)); and, ii) the product they sell, which attracts public attention because of its addictive nature and the risks associated with its use (in 2010 smoking related diseases resulted in \$96 billion in health care costs (CDC,

2010)). Apart from that, TCs' dependence on external resources is related to their heavy dependence on societal support and political influence to block or impede the adoption of tobacco control regulations. Therefore, given their large visibility and dependence on external resources, contested industries largely need to be recognized as legitimate in order to protect their businesses from increasing coercive pressures.

We focus on the case of contested industries in order to disentangle how increasing coercive pressures represent threats to their legitimacy by recognizing "the law and the legal environment as important normative influences" (Edelman, 1990: 1403). Specifically, given that coercive pressures are comprised of intertwined coercive and normative elements, we recognize that in contested industries these pressures not only directly control what the organizations are to do, but more importantly, set forth and shape societal expectations (Edelman, 1990). In fact, Edelman (1990: 1402) posits that coercive pressures shape societal expectations since the "law creates, and helps to constitute, a normative environment". In the tobacco industry, for example, tobacco control regulations influence TCs' legitimacy by portraying TCs' actions as undesirable, improper, or inappropriate, and cigarettes as offensive, harmful, or addictive. In other words, the growing enactment of tobacco control regulations lowers the social acceptability of smoking, which negatively affects TCs' legitimacy. Hence, we posit that increasing coercive pressures have an impact on the legitimacy of the industry by shaping societal expectations about what is deemed appropriate or acceptable (Sanders & Tuschke, 2007).

It is well established in the institutional theory literature that organizations gain legitimacy via acquiescence to coercive pressures (Scott, 2008). However, we argue that for contested industries abiding by the law is a difficult task because these industries face increasing coercive pressures that threaten their legitimacy, as they make salient the lack of consonance between the industries' actions and societal welfare (Greenwood et al., 2011). For instance, in the case of TCs, tobacco control regulations harm TCs' legitimacy by making evident the negative externalities of smoking, or by conveying the message that TCs' core business is neither socially

acceptable nor pursued in an appropriate way. Therefore, conformance to increasing coercive pressures may not be enough to maintain TCs' legitimacy, as their actions may be legal, but at the same time, may be perceived as misaligned with societal interests (Chiu & Sharfman, 2011). This leads us to posit that legitimacy threats in contested industries come from increasing coercive pressures that are highly demanding and hostile.

In sum, increasing coercive pressures threaten contested industries' legitimacy by making visible and salient the misalignment between the industries' strategies and collective interests. As coercive pressures diffuse across the industry, they make evident the conflict between the industry's economic interests and societal welfare. Moreover, given that coercive pressures diffuse across geographies, the legitimacy of contested industries is broadly at risk (Hannan, Carroll, Dundon, & Torres, 1995). In the tobacco industry, for example, tobacco control regulations have been increasingly enacted across states to "express the government's public policy concern that tobacco use is dangerous to health, contribute to a social climate that discourages smoking in public places, and legitimize attempts to bring additional public pressure to reduce cigarette consumption" (Jacobson & Zapawa, 2001: 233). Thus, we posit that the legitimacy of contested industries is threatened by the accumulation of coercive pressures that shape societal expectations since they provide "normative and cognitive guidance" (Edelman & Suchman, 1997: 482). Building on this we hypothesize:

Hypothesis 2: Increasing coercive pressures are negatively related to industry legitimacy.

Performance

From an institutional theory perspective, some studies have examined the influence of legitimacy on performance (Heugens & Lander, 2009). Nevertheless, most studies on the relationship between these concepts draw on population ecology and focus on the impact of legitimacy on survival (Baum & Oliver, 1991, 1992; Dobrev & Gotsopoulos, 2010; Dobrev et al., 2006; Lu & Xu, 2006; Ruef & Scott, 1998; Singh, 1993), or on entry and failure rates (Hannan et al., 1995; Haveman,

1993; Ingram & Torfason, 2010; Kuilman & Li, 2009; Li et al., 2007; Singh et al., 1986). In this study, we respond to the call by Drees and Heugens (2013) to test the performance implications of legitimacy in an established contested industry.

Despite the theoretical importance of the concept of legitimacy, most studies testing the impact of legitimacy on performance have found no clear effect or produced inconclusive results (Drees & Heugens, 2013; Heugens & Lander, 2009). For instance, Geletkanycz and Hambrick (1997) show that strategic conformity has a positive effect on organizational performance, particularly so in industries with high uncertainty, because of the legitimacy benefits that conformity accords. Similarly, Deephouse (1999) demonstrates that the legitimacy gained from strategic conformity improves performance in the context of commercial banks, as it facilitates resource acquisition and protects against threatening challenges or questions. Staw and Epstein (2000), find scant positive effects of the legitimacy gained by the use of popular management techniques on the performance of large US financial and industrial corporations. In another study, Bansal and Clelland (2004a) illustrate that organizations with environmental legitimacy experience lower unsystematic risk because legitimate firms not only enhance their access to resources but also isolate themselves from scrutiny. More recently, Doh, Howton, Howton, and Siegel (2009), reveal that the market reaction to the legitimacy conferred by being listed on a CSR index is greater in the case of removal of endorsement (*i.e.* delisting) than in the case of positive endorsement (*i.e.* listing). Finally, a small stream of research has focused on evaluating the effects of legitimacy on initial public offerings' (IPOs) performance, and has found that firms undertaking IPOs show a good performance record when they are considered to be legitimate for legitimacy reduces the likelihood of IPOs' failure (Certo, 2003; Cohen & Dean, 2005; Gulati & Higgins, 2003; Pollock & Rindova, 2003). In short, previous research has provided scant empirical support for the positive effect of legitimacy on performance (Heugens & Lander, 2009), so that the effect of legitimacy on performance remains to be empirically established (Drees & Heugens, 2013).

Although according to institutional theory maintaining legitimacy is a motivation in its own right, a fundamental premise of this theory is that legitimacy leads to superior performance via access to scarce resources (Suchman, 1995). Specifically, institutional theorists posit that legitimate industries are better able to attract the resources needed to achieve superior performance via: (i) positive societal evaluations (Deephouse, 1999), (ii) public endorsement (Scott, 2008), (iii) and support from resource providers (Meyer & Rowan, 1977). In short, it has been posited that legitimacy favors access to the tangible and intangible resources that are needed to perform well (Deephouse, 1999), such as access to capital markets (Aldrich & Fiol, 1994). That is, legitimacy increases performance because of its effect on the flow of resources to the industry and because it provides protection from costly social scrutiny. In the specific case of TCs, “it has been clear for many years that tobacco companies, which monitor factors that are known to affect their sales, rate the public acceptability of the smoking habit as the most crucial factor affecting sales in the long term” (Simpson & Lee, 2003: 238). This leads to the third hypothesis:

Hypothesis 3: Legitimacy is positively related to industry performance.

Coercive Pressures, Legitimacy, and Performance

Insert Figure 2 about here

The central arguments of the previous discussion highlight that increasing coercive pressures impact the legitimacy and performance of the industry, and that legitimacy also has a direct impact on performance (Scott, 2008). Thus, the ideas presented thus far provide a base for understating the mediating role played by legitimacy in the effect of increasing coercive pressures on performance (see Figure 2). Legitimacy serves as a mediator for the reason that it explains how and why increasing coercive pressures have an effect on performance (Baron & Kenny, 1986). In other words, the effect of increasing coercive pressures on performance is transmitted through changes in legitimacy, which reflects the idea that these pressures “consist not only of law and the sanctions that are built into law, but also of societal norms and culture associated with the law” (Edelman, 1992: 1534).

Specifically, this influence takes place in a sequence where firstly increasing coercive pressures have an impact on legitimacy, and then, legitimacy has an impact on the performance of the industry (see Figure 2). For instance, through the growing enactment of tobacco control regulations, state governments aim to control the behavior of current smokers, to protect non-smokers, and to discourage potential users of cigarettes. As the growing enactment of these regulations shapes the social acceptability of tobacco by highlight the dangers of smoking for smokers and non-smokers alike, the accumulation of these regulations has the potential to reduce TCs' performance. Therefore, by shaping the social acceptability of a given industry, increasing coercive pressures pose a significant threat to industry's performance (Dhalla & Oliver, 2013; Oliver, 1991). Based on the above discussion we expect the mediation effect of legitimacy to be salient in contested industries where coercive pressures represent a growing and persistent threat to legitimacy and performance (Galvin et al., 2005). Although, in general, we presume that this effect illustrates that the relationship between increasing coercive pressures and performance is not only direct, but that it is also mediated by societal evaluations of appropriateness. Building on this we formulate the mediating role for legitimacy:

Hypothesis 4: Legitimacy mediates the relationship between increasing coercive pressures and industry performance.

Methods

Data Sources and Measures

The geographical scope of this study is confined to the US and states are the geographical unit of analysis. For our purposes, the state-level of analysis is appropriate because states have the sovereignty to enact tobacco control regulations that are preempted neither by the US Constitution nor by the Federal law.² Moreover, the differences in the enactment of tobacco control regulations across states are of interest, as they resemble cross-country differences. However, as

² US state governments can enact both smoking bans and youth access laws, but the Federal Cigarette Labeling and Advertising Act (1965) restricts their power to regulate tobacco advertising (ANR, 2004).

opposed to cross-country data, state-level observations allow for the comparison of more homogenous units of analysis. Finally, by selecting the state as the geographical unit of analysis we follow previous research that has successfully studied US regulations at the state-level (Rao, Yue, & Ingram, 2011; Soule & King, 2006).

The period spans the years between 1994 and 2010. In May 1994 Mississippi became the first state to sue TCs in an attempt to hold them accountable for the health care costs of smoking (Janofsky, 1994). This lawsuit marked a watershed event for the TCs, as 45 states followed suit and commenced litigations against TCs. Moreover, the end date is appropriate because no state passed a smoke-free law in 2011 (SLATI, 2011). The models include monthly data covering the period of January 1994 through December 2010. Below we describe the variables included in the analysis.

Dependent variable. TCs' performance is measured using state tax-paid cigarette sales that represent the number of cigarette tax stamps purchased by wholesalers for each state; that is, the monthly number of cigarette packages taxed per state. This is a pertinent measure of the performance of the tobacco industry because states require cigarette distributors to pay tobacco taxes before the sale of cigarettes by purchasing tax stamps that are affixed to each pack of cigarettes, thereby reflecting that the appropriate taxes have been paid. In addition, as unstamped cigarettes are considered to be illegal, state tax-paid sales represent the best available measure of the performance of the total industry at the state-level. Monthly data on state tax-paid cigarette sales were obtained from Orzechowski and Walker, the consultancy firm that compiles cigarette taxes in the US and creates the Tax Burden on Tobacco, a historical compilation of tobacco statistics (Orzechowski & Walter, 2014). In order to eliminate the confounding effect of state size, tax-paid cigarette sales are adjusted by population per state.

Independent variables. We include a fine-grained characterization of increasing coercive pressures by measuring tobacco control regulations using two variables that together represent the different efforts of states to control smoking.

The first variable is youth access laws. Youth access laws represent the obligation of the government to protect the health of children from the substantial danger caused by smoking. Youth access laws increasingly restrict TCs from reaching potential new smokers at a vulnerable age (“more than 80% of adult smokers begin smoking before 18 years of age” (CDC, 2009)) and from starting young people on the path of nicotine addiction (“people who start smoking before age 21 have the hardest time quitting” (Parsons, 2009)). This variable is measured with the Alciati score, an increasing index that captures the extensiveness of state laws on youth access to tobacco (Alciati et al., 1998). Table 1 lists the items included in the Alciati score (Alciati et al., 1998). In order to construct the youth access laws variable, the items listed in table 1 were coded for each state. The codes were assigned according to the definition given by Alciati et al. (1998). The accumulated Alciati score for each state is calculated by adding the monthly codes per state.

Insert Table 1 about here

The second variable, smoking bans, represents the accumulated enactment of smoking bans in the following locations: government buildings, private workplaces, childcare centers, health care facilities, restaurants, bars, schools, recreational and cultural facilities, public transit, malls, and hotels. In order to construct the smoking bans variable, the enactment of a smoking ban on a certain location in a given state was coded following the ImpacTeen coding scheme, which takes into account not only the increasing adoption of new regulations but also the strength of those regulations (ImpacTeen, 2009). For a given state, a month in which there were no smoking bans enacted was coded as 0, if/when a smoking ban was enacted the code was either 1, 2 or 3, depending on the exemptions or exceptions it included,³ or 4 if it was a total ban. The individual monthly scores assigned to each location in each state were aggregated to obtain the monthly value for each state.

³ 1: “Restrict smoking to designated smoking areas or require separate ventilation with exemptions for locations of a certain size”. 2: “Restrict smoking to separately ventilated areas or a ban with exemptions for certain locations where only a restriction applies”. 3:

For both independent variables, state-level data for 1993-2007 were obtained from the ImpacTeen State Level Tobacco Control Policy and Prevalence Database. State-level data for 2008-2010 were retrieved from the State Cancer Legislative Database Program, and were coded by one of the authors using the Alciati and ImpacTeen coding schemes (Alciati et al., 1998; ImpacTeen, 2009). To assess intercoder reliability, another researcher coded both variables for the six states that enacted both smoking bans and youth access laws between 2008 and 2010. The percentage of agreement (93.18%) suggests almost perfect agreement. In sum, the models include two variables that are essential for the analysis because they represent two different types of increasing coercive pressures, as smoking bans restrict when/where smokers can light up whereas youth access laws restrict young people's access to tobacco. In the regression models both independent variables were lagged by two years to account for the causal effect of coercive pressures on legitimacy, and because previous research suggests the use of a two-year lag to allow enough time when examining the impact of tobacco control regulations (Botello-Harbaum et al., 2009). Moreover, this lag corrects for the possible endogeneity between increasing coercive pressures and legitimacy (Schneiberg & Bartley, 2001).

Mediator variable. Following previous research (Bansal & Clelland, 2004a; Deephouse & Carter, 2005; Deephouse, 1996; Pollock & Rindova, 2003), the models include a media-based measure of legitimacy which rests on the assumption that the media reflect generalized perceptions of organizations (Vaara, Tienari, & Laurila, 2006). That is, the discursive nature of legitimacy is reflected in that “organizations described in legitimated vocabularies are assumed to be oriented to collectively defined, and often collectively mandated, ends” (Meyer & Rowan, 1977: 349).

In contrast to previous studies that measure legitimacy from a purposive sample of (mostly national) newspapers, this study includes multiple national and

“Ban in areas accessible to the general public, but smoking is allowed in separately ventilated or designated areas where the public is not allowed” (ImpacTeen, 2009: 16).

local newspapers. The advantage of using multiple newspapers lies in giving weight to different sources when evaluating legitimacy (Andrews & Caren, 2010); thus, using a wide sample of newspapers better reflects the incompatible perceptions of legitimacy and captures broader legitimacy assessments across states (Vergne, 2011). Moreover, an extensive sample better represents legitimation since it captures the process as occurring across state boundaries. Newspaper articles from both national and state newspapers were retrieved from LexisNexis database using a combination of the terms *smok!*, *cigarette*, *tobacco compan!*, *ban*, *law*, *regulation*, *legislation*, and *US*. Exclamation marks (!) were included to find multiple variations of a term (*e.g.* *smok!* finds documents containing the terms *smoker*, *smoking*, *smoke*). The results were filtered to include articles between 1993 and 2010. After similarity analysis and deleting duplicated articles, the final sample resulted in 890 articles.

Legitimacy for the months of the study was computed not at the state-level but at the national level because, as previously argued, legitimation is not a state-level but a national-level process (Hannan et al., 1995). One of the authors read and coded all the 890 newspaper articles. The legitimacy score for each month was obtained by coding each article into one of three categories: positive (1), neutral (0), or negative (-1). A positive article is one that endorses or is favorable to TCs. For example, an article is coded as 1 when it praises TCs' actions by emphasizing the positive aspects of TCs' activities (*e.g.* Corporate Social Responsibility), or when it is advantageous to TCs (*e.g.* it indicates a possible increase in TCs' value or market growth). A negative article is one that challenges or is unfavorable to TCs. For instance, an article that criticizes or questions TCs' actions (*e.g.* indicates that TCs' lied about the dangers of smoking) is coded as -1. A neutral article has either no impact on TCs' (*e.g.* a report or description of the companies' activities) or a balanced number of endorsing and challenging reports (Deephouse, 1996). To assess intercoder reliability, four research assistants coded a subset of the newspaper articles, such that all the articles were coded by a second coder (*i.e.* each research

assistant coded 25% of the total articles). The percentage of agreement (89.97%) suggests substantial levels of intercoder reliability (Landis & Koch, 1977).

Legitimacy scores were obtained using the Janis–Fadner coefficient of imbalance:

$$if\ e > c = \frac{(e^2 - ec)}{t^2}; \quad if\ c > e = \frac{(ec - c^2)}{t^2}; \quad if\ e = c \Rightarrow 0$$

where e is the number of endorsing articles, c is the number of challenging articles, and t is the total number of articles (Janis & Fadner, 1965). Legitimacy scores range from -1 to 1; the former represents a high presence of challenging articles, whereas the latter represents a high number of endorsing articles. In the analyses, legitimacy is lagged by one year to allow time for any threats to legitimacy to be reflected in the media (Fiss, Kennedy, & Davis, 2012; Ingram et al., 2010).

Control variables. *Cigarette taxes* controls for the economic dependence in tobacco taxes of a state and is measured with the change of the tax rate as a percentage of retail price. The 2011 Tax Burden on Tobacco provided state tax data. *Democrats* controls for the idea that democrats are more likely than republicans to support the enactment of comprehensive smoking bans. *Democrats* is measured as the percentage of democrats in the upper and lower houses of state legislatures using data from the US Census Bureau. *FDA* is a dummy variable that takes the value of one for all observations after June 2009 to represent the signing into law of the Family Smoking Prevention and Tobacco Control Act. This federal act gives the Food and Drug Administration authority to regulate the manufacture, distribution, and marketing of tobacco products. *Smoking prevalence* represents the percentage of adults that are smokers per state as well as the size of the market for cigarettes. Data were obtained from the CDC Behavioral Risk Factor Surveillance System. To control for time-variant state specific characteristics we include two variables, *GDP per capita* and percentage of *adults* per state. Data for these variables come from the Bureau of Economic Analysis and the US Census Bureau, respectively. Finally, in order to control for the upward sloping time path of the dependent variable and for

possible seasonality, the models include state specific time trends and calendar month dummies, respectively.

Model and Analyses

There are two main different approaches to test mediation. The standard approach for testing mediation, used by the vast majority of previous studies (Aguinis, Edwards, & Bradley, 2016), suggests the use of three OLS regressions (Baron & Kenny, 1986). However, using OLS regressions when testing for mediation may lead to incorrect results when the mediator is endogenous. A more recent approach, proposed by Shaver (2005), allows to test for mediation in the presence of endogeneity by using an instrumental variable estimation. The instrumental variable estimation replaces the endogenous variable with an instrument that is uncorrelated with the dependent variable (*i.e.* exogenous) but correlated with the endogenous variable (*i.e.* relevant). In the context of study endogeneity may be a problem because of the simultaneity between performance and legitimacy (Miller et al., 2013). Thus, this study pays especial attention to the problem of endogeneity by using the method recommended by Shaver (2005) to test for mediation; as such, this study differs from prior mediation analyses that have mainly used Baron and Kenny's methodology (DeVaro, 2011; Wood, Goodman, Beckmann, & Cook, 2007).⁴

The method proposed by Shaver (2005) is similar to that of Baron and Kenny (1986) in that it consists of three regressions. The first regression is used to test whether the independent variable predicts the dependent variable (*i.e.* first condition). The second regression is used to test the impact that the mediator has on the dependent variable (*i.e.* second condition). The third regression is used to test for mediation effects by evaluating whether the impact of the mediator on the dependent variable is statistically significant when controlling for the independent variable (*i.e.* third condition). The strength of the mediation effect whenever the mediator is significant in the third regression depends on the coefficient of the independent

⁴ The results using Baron and Kenny's method are available from the authors upon request.

variable: if it is statistically significant there is partial mediation, if it is not statistically significant there is full mediation.

The instrumental variable method proposed by Shaver (2005) differs from Baron and Kenny's (1986) OLS method in that the second and third regressions are estimated simultaneously using an estimator such as 2SLS or GMM. The procedure to estimate the second and third regressions as a system consists of two-stages. The first stage (*i.e.* second regression) regresses the endogenous variable on the instrument and the exogenous variables in order to obtain the predicted values for the endogenous variable. The second stage (*i.e.* third regression) regresses the dependent variable on the predicted values of the endogenous variable and the other regressors.⁵

The instrument for legitimacy is the rate of lung cancer deaths per 100,000 people. A number of reasons support the selection of lung cancer deaths as an instrument for legitimacy. First, in the US cigarette smoking causes approximately 90% of lung cancer cases; but the effect of smoking on lung cancer is not instantaneous, instead the disease develops over time, so that lung cancer deaths in t are a consequence of cigarettes smoked in the distant past, not in the present time (SG, 2004; WHO, 2013). Second, about half of the smokers diagnosed with lung cancer stop smoking after receiving the diagnosis because quitting smoking reduces the risk of dying from lung cancer (BMJ, 2010). Therefore, the number of deaths in t does not have a significant relation with the reduction in cigarettes sold, as "there is a lag of several years between when people start using tobacco and when their health suffers" (WHO, 2013). In other words, the previous two arguments suggest that the number of lung cancer deaths in t should not be correlated with the cigarette sales in t , as the lost sales resulting from lung cancer deaths occur at some point before the smoker dies from lung cancer, and are somehow counterbalanced with "more than 3,600 young people who start smoking daily" (FDA, 2009). Therefore, lung cancer

⁵ Several other methods exist for conducting mediation analysis, such as Sobel (1982) test and bootstrapping (Hayes, 2013). Although these methods have been used by prior studies (see for example Paoletta and Durand (2016)), the presence of endogeneity in our models suggests the use of Shaver's (2005) instrumental variable estimation to test for mediation.

deaths are exogenous to performance and should only affect it through their effect on TCs' legitimacy. Specifically, lung cancer deaths have an effect on TCs' legitimacy because by linking smoking with lung cancer, TCs' actions are depicted as socially unacceptable since their products not only cause addiction but also kill their consumers when use as intended (Brandt, 1998). Moreover, powerful information campaigns supported by health associations and link smoking to lung cancer, which is the leading cancer killer in the US (accounting for 27% of all cancer deaths), have further endangered the social acceptability of tobacco (ALA, 2016). The previous arguments are summarized in the following quote: "while a century ago lung cancer was so rare that medical residents were called into the operating room to 'see a condition you'll probably never see again,' thanks to tobacco companies it has reached epidemic proportions" (Siegel-Itzkovich, 2012). Data on lung cancer deaths were obtained from the National Cancer Institute.

Results

Tables 2 and 3 present the descriptive statistics and correlations between the variables included in the analysis. Table 4 reports the results of the analyses. Model (1) presents the results with the control variables only. The results for the control variables are consistent across models. Models (2), (3) and (4) present the instrumental variable mediation results. Given the panel structure of our data, we implement both the Hausman and the overidentifying restrictions tests in order to compare the consistency of the fixed vs. random effects estimators.⁶ The results suggest the use of the fixed-effects estimator. Thus, model (2) is estimated as a panel data fixed-effects model, and models (3) and (4) are estimated using a panel extension of the instrumental variables estimation with fixed-effects.

Insert Tables 2 and 3 about here

Model (2) shows the main effect of increasing coercive pressures represented by different tobacco control regulations on performance. The results

⁶ Ho: individual effects are random. Hausman $\chi^2=24.75$ (p -value=0.000). Sargan-Hansen statistic: 27.53 (p -value=0.001).

provide support for hypothesis 1, in the case of youth access laws but not for smoking bans. Youth access laws -regulations aimed at protecting children and young people-, are broadly accepted among US citizens because of the “widespread public agreement that youth should not smoke” (Brainard, 2007: 2) and because of the “general agreement that these products [cigarettes] and activities [smoking] are not for children” (Davidson, 2003). Hence, the results suggest that these regulations effectively harm TCs’ performance by limiting the number of potential smokers they can attract. Moreover, youth access laws are not openly questioned by society members but instead show good implementation and compliance rates (SG, 2012), which effectively reduce cigarette consumption. Regarding smoking bans, the results suggest that these bans do not affect TCs’ performance. In the case of the US, the average state has mild smoking bans, in the sense that most states restrict smoking to designated or separated areas (CDC, 2011). This is related to the fact that the acceptance of smoking bans has increased and yet, it is not universal, mainly because of freedom concerns that make it hard to balance the right of smokers to use a legal product with the government’s mandate to limit the use of a hazardous product (Jacobson & Wasserman, 1997). Given the disputes surrounding the enactment of smoking bans, a significant number of states have not adopted meaningful bans and have accepted accommodation or tolerance measures that reduce the incentive for smokers to quit and hardly harm TCs’ performance (WHO, 2009). This was recognized by Philip Morris in an internal report: “Total prohibition of smoking in the workplace strongly affects industry volume. (...) Milder workplace restrictions, such as smoking only in designated areas, have much less impact on quitting rates and very little effect on consumption” (WHO, 2009: 38). Thus, the results satisfy the first condition for mediation to hold, but only in the case of youth access laws.

Insert Table 4 about here

Models (3) and (4) present the results of the GMM instrumental variable estimation. We test for the relevance of lung cancer deaths as an instrument with the first stage F-statistic ($F=390.69$, $p\text{-value}=0.000$), which suggests that the instrument

is strong given the thresholds recommended by Stock and Yogo (2004).⁷ The exogeneity of lung cancer deaths as an instrument cannot be tested because the model is just-identified. In spite of this, the arguments presented in the previous section provide a compelling and intuitive background of the instrument's exogeneity (Semadeni, Withers, & Certo, 2013), because, as mentioned before, "a steep rise in lung cancer – a disease virtually unknown at the turn of the twentieth century – had ominously followed in the wake of the rise of the cigarette. In the early 1950s, the relationship of these two trends would be explicitly and scientifically linked" (Brandt, 2007: 3).

The estimates from the first stage are reported in model (3). The results in this model provide support for hypothesis 2 in the case of youth access laws but not for smoking bans. The results indicate that the enactment of youth access laws threatens the legitimacy of the TCs insofar as these laws make visible and salient the social risks associated with, and the unacceptability of, youth smoking. Essentially, youth access laws protect children from the actions of TCs' to entice youth smoking, and simultaneously, uncover the strategies used by TCs to target youth, both of which have a negative impact on TCs' legitimacy. In contrast, smoking bans have no impact on TCs' legitimacy. This seems to be the case as attitudes about individual freedom -a deeply held value in the US- limit the rights of the government to control the occasions of consumption of cigarettes. Therefore, personal freedom and right to choose issues protect TCs' legitimacy from being undermined by the enactment of smoking bans. In fact, the enactment of smoking bans does not necessarily lead to smoking disapproval as smoking may be considered as acceptable, even if not desirable, under certain circumstances. Thus, this result satisfies the second condition for mediation, but only in the case of youth access laws.

Model (4) tests for mediation and presents the estimates from the second stage. This model provides evidence of the positive impact of legitimacy on performance, which supports hypothesis 3. The results suggest that TCs' need to

⁷ Stock and Yogo's (2004) rule-of-thumb states that the first stage F-statistic should have a value higher than 10.

protect their legitimacy to maintain cigarette consumption since smoking is a social practice that depends on cigarettes being accepted and considered as attractive (Alamar & Glantz, 2006). Therefore, the results suggest that contested industries ought to be concerned with being considered as legitimate given the critical importance of legitimacy to performance. In other words, the results provide support for legitimacy as being a critical element for performance. These results satisfy the third condition for mediation.

Combined, given that the three conditions for mediation were satisfied in the case of youth access laws, the results of models (2), (3), and (4) suggest that hypothesis 4 is supported as well for this variable. Hypothesis 4 suggests that legitimacy mediates the relationship between increasing coercive pressures and performance, such that coercive pressures predict the level of social acceptability of an industry, and this, in turn, affects the industry's performance. Therefore, it can be concluded that legitimacy mediates the relation between tobacco control regulations and TCs' performance in the case where tobacco control regulations are accepted and operate as a normative influence (*i.e.* youth access laws). The results also show that restrictions that are mainly aimed at modifying the behavior of current smokers with a set of incentives and sanctions (*i.e.* smoking bans) did not have a significant impact, neither on the legitimacy nor on the performance of TCs. This result is supported by the addictive nature of nicotine, which makes the current consumption of cigarettes dependent on past consumption. Hence, the results indicate that given the addictive nature of smoking, there is a differential impact on consumption of regulations that enable or discourage the use of cigarettes (*i.e.* youth access laws) compared to regulations aimed at changing the behavior of current smokers (*i.e.* smoking bans), and that this effect is mediated by TCs' legitimacy. In other words, the results suggest that by having different targets, coercive pressures have differential effects. On the one hand, youth access laws are regulations that aim to reduce the number of people that are at risk of picking up the habit. On the other hand, smoking bans directly target the protection of non-smokers from exposure to second hand smoke. Therefore, the mediation effect suggests that to the extent that

TCs' legitimacy is at play, the impact of coercive pressures on cigarette consumption is transferred through changes in legitimacy that make smoking less attractive to potential smokers, and therefore have the power to reduce TCs' performance (Wolfson, 2001).

Robustness Checks

In supplementary analyses separate models were estimated using LIML and FULL estimators (Bascle, 2008; DeVaro, 2011). The advantage of using these estimators is that the former is unbiased and the latter performs well in models with few instruments. The results are presented in table 5. As can be seen, the results reported in models (5) and (6) are similar to those of model (4), which suggest that the findings are not sensitive to the estimator used.⁸

Insert Table 5 about here

In order to assess the sensitivity of our findings to the model specification, we used two alternative measures of legitimacy. The first measure, proposed by Vergne (2011), is the raw legitimacy vector (RLV). The RLV is an appropriate measure in the context of the tobacco industry since it accounts for the fact that newspaper articles are mainly negative about the TCs and corrects for media visibility patterns. To compute the RLV we coded only the legitimacy-challenging articles in our sample. The RLV score is computed by adding the number of negative articles per month (Vergne, 2011). The second measure is the mean value of the Janis–Fadner coefficient of imbalance, which dampens the fluctuations in this variable. The results of the analyses are presented in table 5. Model (7) shows the results using the RLV and model (8) those of the mean value of the Janis–Fadner coefficient of imbalance. The estimates differ little from those obtained when using the Janis–Fadner coefficient of imbalance, which suggests that the findings are not sensitive to the measure of legitimacy used. Finally, in order to account for the fact that legitimacy represents taken-for-grantedness, and as such, it changes slowly

⁸ Table 5 only reports the 2nd stage results for the LIML and FULL estimators. As the model is exactly identified the first stage results for both estimators are equal to those obtained with the GMM estimator (model 3).

through a lengthy process, we include the lagged value of legitimacy as a control. Model (9) presents the results of the analysis and shows that the results remain unchanged when controlling for the lagged value of legitimacy.

Discussion

Most past research has ignored the concurrent effects of coercive pressures and legitimacy on performance, and has not explored the possibility of a mediated effect of legitimacy in the relationship between increasing coercive pressures and performance. This study therefore extends understanding on how increasing coercive pressures influence legitimacy and in turn affect the performance of the industry. Using data from a contested industry yielded four major findings that support the mediating role of legitimacy in the relationship between increasing coercive pressures and performance. The arguments below are structured to discuss each of these results.

First, the results show that the negative effect of increasing coercive pressures on performance (and therefore the mediation effect of legitimacy) is only present when coercive pressures operate as a cultural and normative influence, as in the case of youth access laws. Moreover, the results show that in contested industries the effect of increasing coercive pressures is weaker in the presence of laws that transfer a set of incentives and sanctions, as in the case of smoking bans (Vasudeva, 2013). Specifically, in the case of study, the difference in the results reflects the idea that even though tobacco control regulations serve the overall purpose of reducing the demand for tobacco, different laws differ in that they target different societal groups and, most importantly, receive different support from society members. Moreover, different laws differently restrict TCs' ability to operate. Whereas youth access laws have a strong impact on TCs' performance because they limit TCs' target market and the range of strategies these companies can use to reach their potential consumers, smoking bans only change the occasions of consumption of cigarettes but do not restrict the strategies used by TCs to keep their current consumers. Hence, tobacco control regulations that constrain the industry's ability to

reach its goals by imposing restrictions on the way in which TCs are able to handle their business, significantly harm the industry's performance. Moreover, the results indicate that regulations form attitudes towards risk and their acceptance, in the sense that by enacting smoking bans (instead of outlawing tobacco), governments transmit the message that under certain circumstances smoking may be considered an accepted risk (whose responsibility lies with the smoker's voluntary decision to smoke). In contrast, by enacting youth access laws, governments constraint children from smoking because of the high risks associated it. Thus, the performance consequences of coercive pressures are stronger when coercive pressures directly constrain the range of strategies available to an industry by shaping risk perceptions.

Second, the results indicate that increasing coercive pressures have a negative impact on legitimacy, which is understood as "an organization's right to exist and conduct operations" (Metzlet, 2001: 322). This result illustrates that the legitimacy of contested industries is threatened for the two main sources that bestow legitimacy, regulators and society (Deephhouse, 1996), openly challenged their business by enacting laws (Ashforth & Gibbs, 1990). For instance, with the increasing enactment of tobacco control regulations, TCs' legitimacy is threatened because these regulations make the dangers associated with smoking visible and salient (Jones, 1997). On the one hand, youth access laws align different sectors of the society towards a common and deeply engrained goal, which is to protect children and young people from growing up with a deadly habit (UNICEF, 2009): "As society we recognize that these products represent some risk to our physical, emotional, or psychological health, and we decree that they are adult products and activities. (...) There is general agreement that these products and activities are not for children" (Davidson, 2003: 4). Thus, youth access laws reinforce the deeply held and universal norm of protecting children and youth from a harmful and addictive product, and also recognize that it is the government's duty to protect children (UN, 1989). On the other hand, societal members show fragmented support for smoking bans because of the different assessments of the role of government and its interference with individual freedom, which in this case refers to the individual's

choice to smoke. Therefore, in the case of contested industries, increasing coercive pressures are an important precursor of contests or struggles over societal evaluations of appropriateness, especially so when societal members subscribe to the underlying values represented by these pressures.

Third, the results provide direct evidence to support a recurring and central argument in institutional theory, namely that legitimacy has a positive effect on performance as it facilitates the flow of resources to the industry (Dowling & Pfeffer, 1975). In the same way, performance decreases when legitimacy is lost or threatened because of the limited access to the resources needed for survival (Scott & Meyer, 1991). This effect is not specific to the case of contested industries; in fact, it can be generalized to other industries because legitimacy reflects social acceptance and support, which should result in a good performance record. Thus, this result shows that legitimacy is a catalyst for superior industry performance, as such, it is in line with the study of illegitimacy in mediated markets by Zuckerman (1999). Zuckerman (1999) argues that illegitimacy is costly because financial analysts choose to follow only those firms that they perceive as distinctly belonging to a given category. He finds that firms that are covered by financial analysts are more successful than non-covered firms which are subject to the 'illegitimacy discount'. Our results also support the negative effect of illegitimacy on performance in the case of contested industries that are labeled as 'shunned' or 'sin'. In fact, organizations in contested industries are often excluded from financial indexes, such as the Dow Jones Sustainability Indices or the MSCI Global Socially Responsible Indices, on the grounds of them being "engaged in particular 'undesirable' businesses" (DJSI, 1999) or with the premise of excluding "companies with involvement in specific business activities that investors may wish to avoid" (MSCI, 1990).

Lastly, the results of this study support the mediating role of legitimacy in the relation between increasing coercive pressures and performance. The results show that the mediation effect of legitimacy is related to whether the law acts as a source of normative pressures. In the case of smoking bans, the diversity and

inconsistency of societal expectations with respect to freedom issues result in that, on the one hand, supporters of smoking bans plead for the enactment of stringent bans, while, on the other hand, smokers' rights groups oppose the enactment of such bans. At the same time, supporters of smoking bans encourage compliance once the ban is enacted, whereas those who oppose the ban may try either to abolish or to influence/change it in their favor (Simons et al., 2016). Thus, in the presence of a conflict in societal expectations, the mediating role of legitimacy is weaker than in the absence of such conflict, which is the case for youth access laws. This leads us to conclude that the mediating role of legitimacy is present when the law operates as a normative influence instead of when it only transfers a set of incentives and sanctions, because of the diversity and inconsistency of the coercive pressures exerted in the latter *vis-à-vis* the former case (Greenwood et al., 2011; Meyer & Scott, 1983). Hence, this study points to the need to take a fine-grained look when studying increasing coercive pressures seeing that a simplified characterization of such pressures may be misleading, specially so in the case of contested industries.

Taken together, the results of this study are a first step in empirically disentangling the complex relationship between coercive pressures, legitimacy, and performance in a contested industry. The results highlight the profound influence that increasing coercive pressures have in shaping the legitimacy and performance of the industry. Specifically, in the case of study, the results show that coercive pressures have the power to threaten TCs' legitimacy and to harm TCs' performance more by limiting the potential target market for cigarettes (*e.g.* youth access laws), than by determining the occasions of consumption of cigarettes (*e.g.* smoking bans). Overall, the results indicate that enacting tobacco control regulations that reduce the social acceptability of smoking is a highly effective tool in reducing cigarette consumption. Thus, given that up to date empirical work testing some of the basic premises or assumptions of institutional theory has remained scarce, this study contributes to the literature by: i) conceptually and empirically distinguishing the concepts of coercive pressures and legitimacy; ii) using a fine-grained characterization of the concept of coercive pressures; and, iii) directly testing some

of the core claims of institutional theory while paying special attention to the issue of endogeneity.

Limitations and Future Research

Despite its contribution to the literature, this study has some limitations that represent opportunities for future research. First, the generalizability of the results is most relevant to contested industries such as gambling, weapons, and alcohol. Although the tobacco industry has some particularities that make it different to non-contested industries, other contested industries face legitimacy disputes similar to the ones faced by TCs because of the conflicting judgment and evaluations of these industries by different societal segments (Metzlet, 2001). In other words, in contested industries there is a conflict concerning what is considered to be legitimate. Such conflict provides no clear guidelines as to how organizations should respond to the accumulation of conflicting or fragmented coercive pressures, which amplifies the difficulties associated with maintaining legitimacy and performance (Greenwood et al., 2011). Thus, the results can be primarily generalized to contested industries because the dynamics of these industries are similar to the ones observed in the case of TCs. However, though we expect our findings to mainly generalize to industries characterized by contestation and legitimacy threats, as mentioned in the discussion, some of our findings may remain valid for non-contested industries.

Second, the study presents a deterministic orientation in which TCs are not proactive in creating or influencing institutions. This has not always been the case; in fact, TCs are known for employing certain tactics in order to shape societal perceptions of smoking. For example, TCs have used direct tactics, such as hiring scientists to discredit research on the harmful effects of both smoking and second hand smoke, or distancing themselves from their ‘cigarette maker’ label through the creation of an image untainted by cigarettes (*e.g.* Philip Morris changed its corporate name to Altria Group on January, 2003). At the same time, TCs have also used indirect tactics, like promoting ventilation systems in enclosed public spaces, endorsing “courtesy of choice” programs to spread the idea that smokers and nonsmokers can be both accommodated if mutual tolerance exists, or supporting

social movements that oppose the adoption of smoking bans (WHO, 2007). Future research can overcome this limitation by studying how organizations in contested industries respond to or shape their institutional environments (Berrone, Cruz, Gomez-Mejia, & Larraza-Kintana, 2010; Edelman, 1992; Oliver, 1991), and by contributing to the nascent stream of research on how organizations in the face of legitimacy threats defend their legitimacy (Lamin & Zaheer, 2012), restore their legitimacy (Pfarrer et al., 2008), or maintain their legitimacy (Desai, 2011). Moreover, given the limited availability of individual level data on the TCs, we could not further explore the implications of the mediated effect for individual organizations. However, future research could uncover the specific strategies that different organizations in the US tobacco industry have used to respond to an increasingly hostile and coercive business environment (Durand & Vergne, 2015). Furthermore, using the organization level of analysis will allow researchers to theorize and test firm level effects in relation to contestation, which we suggest is a promising area of inquiry.

Third, the extent to which regulations are implemented and enforced is not addressed, and the study focuses on state-level regulations that may differ from county regulations in states where there is no preemption. The dynamics at the state-level are extremely relevant to study as TCs' influence on the policymaking process is considered to be greater at the state-level since TCs' commit more resources to fight state or federal laws than to fight county regulations (ANR, 2004). However, future research could benefit from studying tobacco control regulations at the county level, as county level bans may have an important impact on TCs' legitimacy and performance because they closely reflect local citizens' societal expectations. Overall, comparing the micro and macro levels of analysis could lead to a better understanding of the relationship between the concepts of study.

Finally, our study focuses on disentangling the dynamics of the US tobacco industry, which is a particular industry for several reasons. First, in the US the availability of other tobacco products such as smokeless tobacco or e-cigarettes will likely affect the overall consumption among cigarette consumers. However, given

that the market for smokeless tobacco experienced strong growth after 2011 and e-cigarettes greatly expanded after 2012, we do not consider snus or vaping to be substitutes for smoking during the period of study (Euromonitor, 2012). Nevertheless, future research could benefit from uncovering the dynamics associated with the migration to other tobacco products. Second, the recent FDA regulatory authority over the US tobacco industry creates the potential for further regulations on tobacco advertising and manufacturing. As mentioned before, the regulatory oversight of the state and federal governments with respect to tobacco does not overlap. Nevertheless, future work exploring the attempts of the FDA to exercise its authority could shed light on how the process of regulation tobacco unfolds in parallel (or not) across the state and federal levels. Lastly, since the number of tobacco control regulations enacted by US states increased, TCs have actively pursued international markets and the sales of cigarettes made outside the US make a large percentage of their profits. Future research, therefore, could benefit from a multi-country-analysis that sheds light on whether the dynamics uncovered in this study also hold in an international context.

Figure 1: Smoking prevalence US nationwide

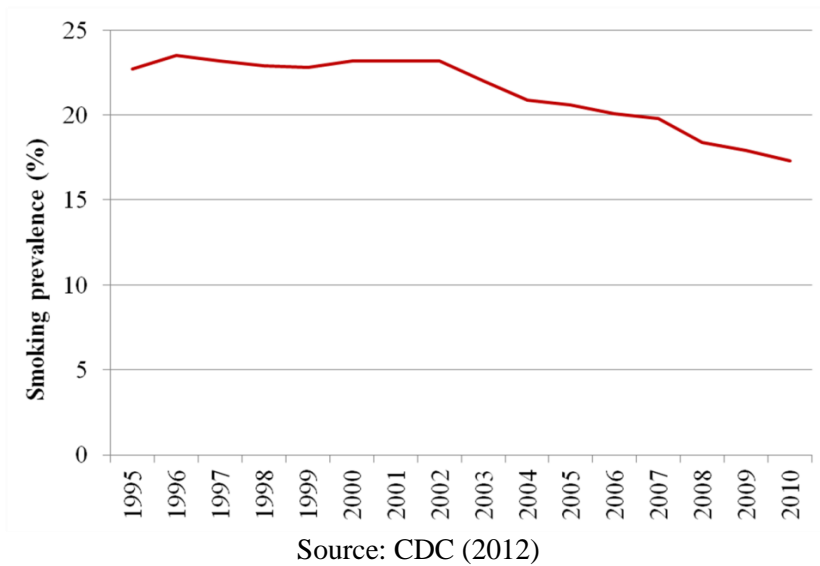


Figure 2: Hypotheses

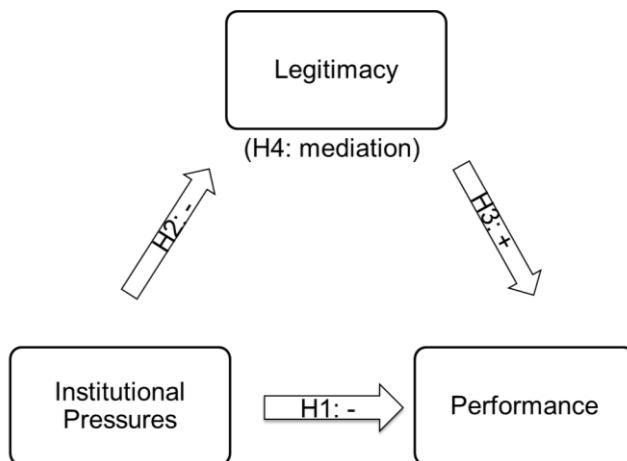


Table 1: Youth Access Laws – Alciati Score

Item	Target
<i>Minimum age</i>	Prohibits the sale or distribution of any tobacco products to persons under 18 years of age.
<i>Packaging</i>	Prohibits all cigarette sales other than in a sealed package conforming to federal labeling requirements.
<i>Clerk intervention</i>	Prohibits access to or purchase of tobacco products without the intervention of a sales clerk.
<i>Photo identification</i>	Requires merchants to request photographic identification for customers who appear to be under 21 years of age.
<i>Vending machines</i>	Total ban on sale of all tobacco products through vending machines in all locations.
<i>Free distribution</i>	Total ban on distribution of free tobacco samples, coupons for free samples, or rebates.
<i>Graduated penalties</i>	Establishes a system of graduated penalties or fines applicable to all youth access laws, to be levied within three years, plus possibility of suspension or revocation of a required tobacco retail license for repeated sales to minors.
<i>Random inspections</i>	Establishes random, unannounced inspections of retailers as part of the enforcement mechanism, using underage buyers for the purpose of identifying violators, and does not prohibit other use of minors to test compliance.
<i>Statewide enforcement</i>	Establishes a clearly designated statewide enforcement authority for sales.

Source: Alciati *et al.*, 1998: 346.

Table 2: Descriptive Statistics

	Obs.	Mean	Std. Dev.	Min	Max
<i>Tax-paid sales</i>	10402	64.548	26.9	3.716	280.791
<i>Youth access laws</i>	9180	15.142	6.211	0	31
<i>Smoking bans</i>	9180	16.27	12.65	0	51
<i>Legitimacy</i>	9792	-0.704	0.391	-1	1
<i>Taxes</i>	10353	0.049	1.284	-8.7	22.5
<i>Democrats</i>	10404	0.497	0.179	0	0.9
<i>FDA</i>	10404	0.093	0.291	0	1
<i>Smoking prevalence</i>	9744	21.660	3.6	9.1	32.6
<i>GDP per capita</i>	10404	0.038	0.016	0.019	0.175
<i>Adults</i>	10404	0.754	0.024	0.65	0.88

Table 3: Correlations

	1	2	3	4	5	6	7	8	9
<i>1. Youth access laws</i>	1								
<i>2. Smoking bans</i>	0.146*	1							
<i>3. Legitimacy</i>	-0.041*	-0.007	1						
<i>4. Taxes</i>	0.032*	0.038*	-0.062*	1					
<i>5. Democrats</i>	0.096*	0.082*	0.007	0.005	1				
<i>6. FDA</i>	0.129*	0.353*	-0.042*	0.092*	0.058*	1			
<i>7. Smoking prevalence</i>	-0.212*	-0.577*	0.025*	-0.043*	0.072*	-0.325*	1		
<i>8. GDP per capita</i>	0.062*	0.256*	-0.039*	0.035*	-0.292*	0.191*	-0.365*	1	
<i>9. Adults</i>	0.087*	0.101*	-0.050*	0.026*	0.065*	0.108*	-0.027*	0.389*	1

Note: * correlations are significant at the .05 level

Table 4: Results

	Model 1	Model 2	Model 3	Model 4
	Controls	Base Model	1st Stage	2nd Stage
<i>Dependent variable</i>	<i>Performance</i>	<i>Performance</i>	<i>Legitimacy</i>	<i>Performance</i>
<i>Youth access laws</i>		-0.642** (0.226)	-0.004* (0.002)	0.103 (0.131)
<i>Smoking bans</i>		-0.044 (0.057)	0.001 (0.001)	0.039 (0.035)
<i>Legitimacy</i>				11.823* (5.830)
<i>Lung cancer deaths</i>			-0.116*** (0.006)	
<i>Democrats</i>	-0.465 (10.992)	-2.931 (10.934)	0.254* (0.124)	-44.715** (17.184)
<i>Taxes</i>	0.012 (0.209)	0.020 (0.208)	-0.011*** (0.001)	0.202 (0.201)
<i>FDA</i>	-6.023*** (1.596)	-5.389** (1.689)	-0.170*** (0.007)	0.022 (1.110)
<i>Smoking prevalence</i>	2.184*** (0.461)	2.174*** (0.304)	-0.013*** (0.004)	0.142 (0.195)
<i>GDP per capita</i>	-566.330* (247.557)	-341.368+ (173.143)	10.796*** (2.285)	557.499** (212.752)
<i>Adults</i>	-18.393 (39.915)	-1.226 (33.127)	-0.655 (0.338)	34.015* (17.209)
<i>Constant</i>	53.199+ (30.234)	42.720 (27.469)		
<i>Month dummies</i>			Included	Included
<i>State time trends</i>			Included	Included
<i>Fixed effects</i>	Included	Included	Included	Included
<i>Observations</i>	9,744	9,156	9,156	9,156
<i>Number of stateid</i>	51	51	51	51

Robust standard errors clustered by state in parentheses.

*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Table 5: Robustness Checks

	Model 5	Model 6	Model 7		Model 8		Model 9	
<i>Dependent variable</i>	<i>Performance</i>	<i>Performance</i>	<i>Legitimacy</i>	<i>Performance</i>	<i>Legitimacy</i>	<i>Performance</i>	<i>Legitimacy</i>	<i>Performance</i>
<i>Youth access laws</i>	0.103 (0.131)	0.099 (0.131)	-0.003* (0.001)	0.086 (0.130)	-0.003** (0.008)	0.089 (0.131)	-0.004* (0.002)	0.094 (0.131)
<i>Smoking bans</i>	0.039 (0.035)	0.041 (0.035)	0.001 (0.001)	0.043 (0.035)	0.001 (0.001)	0.044 (0.033)	0.001 (0.001)	0.042 (0.034)
<i>Legitimacy</i>	11.823* (5.830)	11.099* (5.498)		11.686* (5.784)		10.153* (5.056)	-0.131*** (0.001)	9.204* (4.570)
<i>Legitimacy lagged</i>								1.223+ (0.626)
<i>Lung cancer deaths</i>			-0.117*** (0.004)		-0.135*** (0.005)		-0.148*** (0.006)	
<i>Democrats</i>	-44.715** (17.184)	-44.375** (17.169)	0.178+ (0.101)	-43.785* (17.167)	0.120 (0.083)	-42.932* (17.082)	0.289* (0.128)	-44.376** (17.134)
<i>Taxes</i>	0.202 (0.201)	0.193 (0.199)	-0.007*** (0.001)	0.154 (0.192)	0.001 (0.001)	0.061 (0.186)	-0.012*** (0.003)	0.180 (0.196)
<i>FDA</i>	0.022 (1.110)	-0.019 (1.096)	-0.200*** (0.005)	0.354 (1.251)	-0.185*** (0.007)	-0.105 (1.064)	-0.184*** (0.007)	-0.289 (1.002)
<i>Smoking prevalence</i>	0.142 (0.195)	0.132 (0.193)	-0.008** (0.003)	0.080 (0.185)	-0.014*** (0.004)	0.128 (0.190)	-0.013** (0.003)	0.105 (0.189)
<i>GDP per capita</i>	557.499** (212.752)	564.339** (211.236)	6.604*** (1.768)	607.978** (204.420)	12.276*** (2.056)	560.504** (211.495)	11.652*** (2.325)	577.766** (207.848)
<i>Adults</i>	34.015* (17.209)	33.387+ (17.081)	-0.433 (0.276)	31.326+ (16.598)	-0.187 (0.278)	28.168+ (16.671)	-0.666+ (0.333)	32.399+ (16.743)
<i>Observations</i>	9,156	9,156	9,156	9,156	9,156	9,156	9,156	9,156
<i>Number of stateid</i>	51	51	51	51	51	51	51	51

All models include month dummies, state time trends, and fixed effects.

Robust standard errors clustered by state in parentheses.

*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

PERFORMING BY ADHERING? A REVIEW AND META-ANALYSIS OF LEGITIMACY^a

Abstract

This study synthesizes research that uses the construct of legitimacy in the organization and management literature. The first part of this study presents an integrative review that proposes a classification framework of the legitimacy literature depending on whether legitimacy is categorized as an antecedent, outcome, moderator, or mechanism. This review: i) identifies, organizes, and summarizes existing empirical and conceptual research on legitimacy, ii) disentangles legitimacy from cognate concepts, iii) provides a coherent framework for understanding legitimacy; and, iv) proposes a future research agenda. The second part of this study uses meta-analysis techniques in order to uncover the strength of the relationship between legitimacy and performance. By doing so, this study specifically focuses on testing whether legitimacy differentially contributes to financial performance. The results reveal that the bivariate correlation between legitimacy and performance is on average positive but small, and indicate the presence of unobserved moderator variables in this relationship. Based on these results, and building on our review of the legitimacy literature, we propose a coherent framework that provides guidance for advancing research using the concept of legitimacy, and identify a future research agenda. Overall, this study contributes to the literature by synthesizing existing research that has tackled the construct of legitimacy, by examining the performance consequences of legitimacy, by proposing a framework to understand this concept, and by identifying a number of important issues that merit further scholarly research.

^a This chapter is the result of joint work with Yasir Dewan and Tal Simons.

Introduction

In recent years, the concept of legitimacy has received considerable attention and a prominent place in the organization and management scholarship. While legitimacy has been a central concept in political science (*e.g.* Locke) and sociology (*e.g.* Weber) for a long time, it only gained traction in the organization and management literature with the publication of the seminal articles by Meyer and Rowan (1977), and DiMaggio and Powell (1983), and has been increasingly central since then. In spite of the prevalence and widespread interest in legitimacy, surprisingly there is no systematic review of this significant and important concept that specifically targets organization and management scholarship. In fact, most efforts to advance the concept of legitimacy remain at the conceptual level (Bitektine & Haack, 2015; Bitektine, 2011; Deephouse & Suchman, 2008; Johnson, Dowd, & Ridgeway, 2006; Suchman, 1995; Tost, 2011), and there has been no attempt to provide a broad and thorough review of theoretical and empirical research on legitimacy in organization and management scholarship.

The diversity and fragmentation of research using the concept of legitimacy, lead us to believe that the time is ripe for a review that synthesizes both conceptual and empirical literature using the concept of legitimacy in organization and management research. Although research using the concept of legitimacy has surged, and despite apparent consensus on legitimacy being understood as an organization's right to exist and conduct operations (Metzler, 2001), a lack of consensus exists on three key issues regarding legitimacy. First, scholars have identified a myriad of determinants of legitimacy, but are divided regarding the role of different means to achieve legitimacy. Second, uncertainty exists regarding the use of legitimacy as either a moderator or a mediator in the relationship between different concepts of interest for organization and management scholars. Third, although several studies have examined the performance consequences of legitimacy, the evidence concerning this relationship remains inconclusive. The substantial but inconclusive evidence from prior research on the implications of

legitimacy, especially in relation to the performance consequences of legitimacy, results in a scarce understanding of the concept of legitimacy as well as the outcomes of legitimacy. Thus, the purpose of this study is to shed light on these areas by conducting a review of theoretical and empirical literature using the concept of legitimacy, and by studying the effect of legitimacy on performance using meta-analysis techniques.

The first part of this study presents an integrative review of the legitimacy literature. We first address the question of what legitimacy is and disentangle legitimacy from the cognate concepts of reputation and status. We then propose a classification framework for the literature depending on whether legitimacy is used as an antecedent, outcome, moderator, or mechanism. Next, we provide a description of the theoretical foundations and an overview of existing empirical evidence on the construct of legitimacy. Given that research studying the outcomes of legitimacy has mainly focused on the performance consequences of legitimacy, the second part of this study presents the results of a meta-analysis on the relationship between legitimacy and performance. We chose to focus on this particular relationship because of the prevalence of studies that examine performance as an outcome of legitimacy. Our results show that the correlation between legitimacy and performance is positive but small, and we find that unobserved moderators matter given that the correlation varies more than expected across studies. Based on these results and on the insights gained from the review of the literature, we propose a coherent framework that advances the concept of legitimacy. Lastly, we highlight and identify underdeveloped issues and propose a research agenda that can be addressed by future research efforts. In sum, our study not only synthesizes existing research using the construct of legitimacy in the organization and management literature, and links legitimacy and performance using meta-analysis techniques, but also provides structured guidance for future research efforts.

The contribution of this study is threefold. First, we shed light on the use of legitimacy by organization and management scholars. We do so by undertaking a comprehensive and encompassing review of conceptual and empirical literature that uses the legitimacy construct. Second, through a meta-analysis, we assess evidence on the relationship between legitimacy and performance more comprehensively than prior work has done. Lastly, we organize and synthesize prior research in an overarching theoretical framework and provide directions for future research. Overall, our goal is to provide organization and management researchers with a timely review that analyzes and details the current state of the literature on the construct of legitimacy, as well as with a meta-analysis that synthesizes existing evidence on the relationship between legitimacy and performance.

Part I: A Review of Legitimacy in Organization and Management Research

To gain an encompassing perspective on the legitimacy literature, we identified all articles published since 1960 until 2015, with the explicit mention of the word *legitimacy* in the abstract or keywords. We focused our search on the following journals: *Academy of Management Journal*, *Academy of Management Review*, *Administrative Science Quarterly*, *Journal of International Business Studies*, *Journal of Management*, *Journal of Management Studies*, *Management Science*, *Organization Science*, *Organization Studies*, *Strategic Management Journal*, and *Strategic Organization*. To identify the relevant studies to be included in the review, we read the abstracts of all the 236 articles retrieved from these journals and dropped articles that use legitimacy in an everyday or nonacademic manner. To validate our sample, in a second phase we ran another search searching for the word *legit** (to also retrieve studies on legitimation, legitimate, etc.) in the abstract or keywords, which expanded our search to capture a broader sample of articles and lead us to examine seven additional studies.¹ This two-step procedure resulted in 127 studies.

¹ See a more detailed description under Part II.

We included in our review theoretical articles that made a significant theoretical contribution to legitimacy research, as well as empirical articles that used legitimacy as one of the main concepts of study or that included a theoretical argument concerning legitimacy. In conducting our review, we followed prior review studies and coded each article along several dimensions of interest: i) level of analysis; ii) theoretical perspective; iii) measures of legitimacy (*e.g.* adoption, organizational linkages, or media perception); and iv) antecedents (*i.e.* predictors of legitimacy), outcomes (*i.e.* consequences of legitimacy), or legitimacy as a moderator/mechanism. We classified studies as antecedents when legitimacy is the dependent variable of analysis. Outcomes are those studies where legitimacy is an independent variable. For papers that use the concept of legitimacy as the mechanism by which one variable has an effect on another variable, we differentiate between those that include a theoretical argument on legitimacy but no empirical measures (*i.e.* mechanism), from those that operationalize the concept of legitimacy (*i.e.* moderator or mediator). Classifying studies as either antecedents, moderators, mechanisms, or outcomes of legitimacy is important because, to some extent, theoretical perspectives and measures employed in studies using legitimacy tend to vary across organization and management research. Additionally, this classification helped us to summarize existing work and to identify promising avenues for future research.

What is Legitimacy?

While the concept of legitimacy has been central to the organization and management scholarship, its use in empirical research remains controversial (Bitektine, 2011). In its most basic definition, legitimacy refers to the societal acceptance of an organization based on its conformance with relevant rules, norms and values, and cultural cognitive frameworks. Although multiple definitions of legitimacy have emerged (see Figure 1), the majority of authors use the definition given by Suchman (1995: 574): “a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions”. In contrast, the

growing number of empirical studies using the construct of legitimacy has not lead to a broad agreement on the operationalization of this construct (Vergne, 2011). Within the wide range of proposed measures of legitimacy, the three most common are: adoption of codes or certificates (Bansal & Hunter, 2003), media perception (*i.e.* Janis-Fadner coefficient of imbalance (Deephouse, 1996, 1999)), and organizational linkages (Baum & Oliver, 1992; Ruef & Scott, 1998; Singh et al., 1986).

Insert Figure 1 about here

Despite being widely used, the definition of legitimacy provided by Suchman (1995) only partially captures the intricate nature of the legitimacy construct. In fact, Suchman (1995) identifies three broad types of legitimacy, each of which is aligned with his definition of legitimacy but rests on a different pillar. The first type, pragmatic legitimacy, is bestowed to the organization by its stakeholders in terms of the benefit or value that the focal organization generates for them. The second type, moral legitimacy (also referred to as normative legitimacy), entails a positive evaluation of the organization and its activities based on whether these are “the right things to do”. Cognitive legitimacy, the third type, is based on taken-for-grantedness and comprehensibility of the organization. The intricate nature of legitimacy was identified prior to the work of Suchman (1995), as Aldrich and Fiol (1994) already distinguished between cognitive and sociopolitical legitimacy in their study of the legitimacy processes surrounding industry creation. They define cognitive legitimacy in terms of taken-for-grantedness, and sociopolitical legitimacy in terms of “the extent of conformance to recognized principles or accepted rules and standards” (Aldrich & Fiol, 1994: 646). Scott (2008) also identified three types of legitimacy: regulative, normative, and cultural-cognitive. The types of legitimacy proposed by Scott (2008) are to a certain degree in line with Suchman (1995): the regulative emphasizes conformity to rules, the normative is morally governed and associated with norms and values, and the cultural-cognitive stresses shared understandings and points to taken-for-grantedness. Hence, although broad and widely used, the definition of legitimacy provided by Suchman (1995) does not refer

to one specific type of legitimacy, as it rather captures the construct in its most overarching meaning. This is a double-edged sword: on the one hand, the convergence on a definition of legitimacy is positive because it indicates the development of the field; but on the other hand, this convergence gives rise to studies that either overlook the different types of legitimacy or do not specify the type of legitimacy that is being examined.

Building on the work of Aldrich and Fiol (1994), Suchman (1995), and Scott (2008), a number of scholars have attempted to tackle the complex nature of this concept by identifying different dimensions of legitimacy or by building on the types proposed by the aforementioned scholars. Examples of research that builds on the types of legitimacy identified by early scholars are the study by Barron (1998) on moral and pragmatic legitimacy, Zimmerman and Zeitz's (2002) study on sociopolitical and regulative legitimacy, and the research by Golant and Sillince (2007) on cognitive and sociopolitical legitimacy. Similarly, research that suggests new dimensions of legitimacy is somewhat aligned with the work of early scholars. For instance, Deephouse (1996), proposes media legitimacy along with regulatory legitimacy to differentiate legitimacy in the eyes of the general public from that bestowed by regulators; however, his conceptualization of these dimensions remains closely aligned to that of normative and regulative legitimacy. Other scholars have used the aforementioned dimensions of legitimacy but have also differentiated across levels of analysis. For example, Ruef and Scott (1998) identify managerial and technical legitimacy as related to the technical and managerial levels within organizations. Similarly, Kostova and coauthors (2002; 1999), differentiate between internal and external legitimacy. Moreover, scholars have recently developed other dimensions of legitimacy to better fit new empirical settings or phenomena that are being studied, such as corporate environmental legitimacy (Bansal & Clelland, 2004b), cultural legitimacy (Archibald, 2004), alliance legitimacy (Dacin, Oliver, & Roy, 2007), and professional legitimacy (Deephouse & Suchman, 2008). Therefore,

the evolution of research on the concept of legitimacy has resulted in a myriad of legitimacy dimensions or types, as listed in Table 1.

Insert Table 1 about here

When putting together the various types of legitimacy identified in the previous paragraph, we find that the different typologies proposed are quite similar. The highest level of agreement between authors is on the concept of cognitive legitimacy being based on taken-for-grantedness, which suggests agreement on legitimacy evoking a “second order of meaning” (Berger & Luckmann, 1966). With respect to the concept of normative legitimacy, besides some disagreement on the name (*i.e.* it has also been called moral or media legitimacy) researchers seem to agree that this type of legitimacy is based on societal norms and values, which further supports the idea of legitimacy reflecting perceived consonance with a moral system that grants social acceptability and credibility. Therefore, there is consensus on the definitions of normative and cognitive types of legitimacy, even if there is some variation on the labels. However, prior studies differ in their definition of other types of legitimacy; whereas for Aldrich & Fiol (1994), Deephouse (1996), and Scott (2008) the regulative emphasis is on conformance to rules and thus linked to the notion of legitimacy introduced by Weber, for Suchman (1995) the concept of pragmatic legitimacy rests on the self-interest of the audience that bestows legitimacy. Thus, the notion of pragmatic legitimacy proposed by Suchman (1995) is related to the differential audiences identified by Ruef and Scott (1998) and Kostova and coauthors (2002; 1999). Nevertheless, we argue that it is possible and desirable to reconcile the types of legitimacy identified by prior research, because doing so provides a greater degree of conceptual clarity on the concept of legitimacy. Together, prior scholarship attests to the need of identifying the audience that confers legitimacy (*i.e.* internal vs. external), and simultaneously suggest the existence of four different basic types of legitimacy: pragmatic, regulative, normative/moral, and cultural-cognitive. On a continuum of types, we suggest that cultural-cognitive legitimacy is the deepest, and therefore the hardest to first obtain

and instill, and second to manipulate, and that pragmatic legitimacy is the most concrete and attainable. Although, in most cases, there is no explicit operationalization mentioned in association with these different dimensions of legitimacy, Table 1 provides a selected sample of measures that have been used by prior literature.

What Legitimacy is not.

Over the past few decades, scholars have used cognate concepts such as reputation and status when conceptualizing legitimacy. While there have been recent efforts to disentangle these potentially overlapping social evaluations of organizations (Bitektine, 2011; Deephouse & Suchman, 2008; Devers, Dewett, Mishina, & Belsito, 2009), it remains that studies tend to conflate legitimacy with the aforementioned concepts. Moreover, even though reviews of the literature for these cognate concepts exist (see Lange, Lee, and Dai (2011) on reputation, and Piazza and Castellucci (2013) on status), there is no review that specifically focuses on the construct of legitimacy, which is striking given how ubiquitously it is used. Thus, we deem it vital to disentangle the various concepts from one another while our focus is on specifically reviewing the concept of legitimacy.

Recent studies define reputation as the recognition accorded to an organization's activities and outputs on the basis of its prior performance (Jensen & Roy, 2008; Pollock, Lee, Jin, & Lashley, 2015). While reputation is used by stakeholders as a signal of an organization's future behavior or unobserved characteristics based on its past behavior and observable characteristics (Lange et al., 2011), legitimacy is the assumption that an organization conforms to the relevant norms, values, and cultural-cognitive frameworks. Moreover, legitimacy is a multi-dimensional construct limited to the types presented previously, whereas reputation can be assessed concerning virtually any organizational attribute (Deephouse & Carter, 2005). Hence, while legitimacy emphasizes social acceptance resulting from adherence to social norms and expectations, reputation alludes to relative comparisons among organizations on various attributes (Deephouse & Suchman,

2008). However, as is the case for legitimacy, despite previous efforts a great deal of diversity in the conceptualization and measurement of reputation remains (Barnett & Pollock, 2012; Walker, 2010).

Although a plethora of definitions of organizational status exist in extant literature (Piazza & Castellucci, 2013), status is generally defined as a position in social system, primarily derived from accumulated acts of deference (Jensen & Roy, 2008; Sauder, Lynn, & Podolny, 2012). In other words, status is based on the socially agreed-upon rank of the organization relative to other organizations in its environment (Washington & Zajac, 2005), whereas legitimacy is a form of evaluation that emphasizes the social acceptance of the organization which is gained by complying with socially constructed expectations. The fundamental difference between status and legitimacy is that whereas legitimacy emphasizes similarity across organizations, status focuses on differentiating organizations by rank ordering them (Piazza & Castellucci, 2013).

Other cognate concepts to the concept of legitimacy, such as organizational identity and organizational image, are more distinct, and so less often conflated with legitimacy in the extant literature. Organizational identity is the perception of an organization's central, distinctive, and enduring features in the eyes of its members (Albert & Whetten, 1985). Similarly, organizational image refers to organizational members' perception of how an organization is judged by outsiders (Dutton & Dukerich, 1991). Therefore, though organizational identity has been conceptualized as a signal of organizational legitimacy (Smith, 2011), the most salient difference between legitimacy and the constructs of organizational identity and image is that while identity and image are evaluations by insiders, legitimacy is an evaluation made by outsiders.

The previous discussion led us to believe that the theoretical intersection between legitimacy and other related concepts could provide an interesting avenue for future research. Although scholarship has made progress in defining the similarities and differences of legitimacy and cognate concepts, it remains necessary

to disentangle how each of these concepts differ from legitimacy. In specific, a question that emerges is the possible fundamental difference between the determinants and consequences of legitimacy and its related concepts (*i.e.* reputation, status, etc.). Moreover, the prevalence of studies that examine the relationships between legitimacy, reputation, and/or status has not resulted in a clear understanding of their dynamics. For instance, whereas Rindova and coauthors (2005) identify status to be an antecedent of reputation, Rao (1994) argues that reputation is the outcome of the process of legitimation. Hence, research that not only compares the different effects of the aforementioned societal evaluations on performance, but that also captures the missing links in connection to these relationships can advance our understanding of each of these concepts. Overall, research that compares these cognate concepts will further advance the precision and depth with which the concept of legitimacy is used by organization and management scholarship.

Organizational Legitimacy

One of the principal differences in how the concept of legitimacy is employed in organization and management research is the level of analysis at which it is operationalized. We identified three levels at which legitimacy is used: macro (*i.e.* field / industry / population); meso (*i.e.* organization); and, micro (*i.e.* individual). Given that our interest is in organization and management research, studies that explore legitimacy at the micro-level (*e.g.* individual-level legitimacy) are outside the scope of this review.²

At the macro-level, researchers have studied legitimacy dynamics in organizational fields or organizational populations. With respect to the antecedents of legitimacy, macro-level studies have identified how organizational (Desai, 2011; Lee & Pennings, 2002) and industry actions (Aldrich & Fiol, 1994), as well as individual efforts (Anteby, 2010; Foreman & Whetten, 2002) and national processes

² For an excellent discussion of legitimacy at the micro-level please see Johnson, Dowd, & Ridgeway (2006).

(Judge, Douglas, & Kutan, 2008) are fundamental to the construction of a field's legitimacy. In relation to macro-level outcomes, besides the long-established research that explains the survival of populations (Dobrev & Gotsopoulos, 2010; Dobrev et al., 2006; Shane & Foo, 1999) and widespread adoption rates (Delmestri & Wezel, 2011; Hannan et al., 1995; Haveman, 1993; Li et al., 2007); scholars have used legitimacy to examine more specific outcomes such as market entry decisions (Chan, Makino, & Isobe, 2013) and network endurance (Human & Provan, 2000).

Aside from the importance of the concepts of organizational field for institutional theory and of population for organizational ecology, the main level of analysis that is often times employed in organization and management research is that of the organization. Given that multilevel studies are uncommon in legitimacy research, we focused our efforts in reviewing studies at the meso level. Below we review the most relevant studies on the antecedents, moderators, mechanisms, and outcomes of legitimacy at the organizational (*i.e.* meso) level.

Antecedents of Legitimacy

In this section, we identify the different antecedents proposed by prior research as fundamental to the construction of legitimacy. An important caveat is that besides studies on how new ventures acquire legitimacy (Aldrich & Fiol, 1994; Gulati & Higgins, 2003; Lounsbury & Glynn, 2001; Zimmerman & Zeitz, 2002; Zott & Huy, 2007), prior research has hardly empirically tested legitimacy as a dependent variable and has instead looked at the different antecedents in the process of acquisition of legitimacy from a theoretical perspective.

The classical work of Meyer and Rowan (1977) suggests that conformity to the institutional environment in which an organization operates is an important antecedent of legitimacy. According to DiMaggio and Powell (1983), conformity results in isomorphism, which refers to the similarity of an organization's characteristics (*e.g.* structure, strategies, and processes) to those of other relevant organizations in its environment. A central tenet of institutional theory is that isomorphism results in organizational legitimacy by making organizations more

similar as they acquire taken-for-granted structures and strategies. Empirical support for this premise was first provided by the classical study of Tolbert and Zucker (1983) on the diffusion of civil service reform. In their study, the authors posit that for early adopters the adoption of an innovation is driven by performance motives, whereas for late adopters it is driven by legitimacy concerns. In the context of commercial banks, Deephouse (1996) provides evidence that isomorphism results in regulative legitimacy, but finds no effect on normative legitimacy. By contrast, Glynn and Abzug (2002) find that isomorphism has a positive effect on legitimacy as it increases the public's ability to comprehend the organizations in question. Overall, previous research has suggested that isomorphism is an antecedent of legitimacy as it demonstrates "the organization's worthiness and acceptability" (Oliver, 1991: 158).

Another mean to achieve legitimacy that is somewhat related to conformity is decoupling. According to Meyer and Rowan (1977), organizations have to comply with institutional pressures that may reduce their efficiency; therefore, in order to mitigate these negative effects, organizations may choose to decouple their practices from their structure when complying with institutional pressures. However, decoupling has an unintended consequence for organizational legitimacy, as demonstrated by MacLean and Behnam (2010) in their study of a large insurance company. These authors show that, in the long run, decoupling may become a threat to organizational legitimacy when related to conformance with regulative forces. Ashforth and Gibbs (1990) also recognize the risks associated with decoupling, as they posit that this practice may result in a series of vicious circles that ultimately decrease organizational legitimacy. Recent research has also identified a differential effect of decoupling on legitimacy dependent on the role of significant audiences that are more knowledgeable about a given field -and therefore are more likely to identify decoupling practices-, and that have different orientations towards what is legitimate (Lamin & Zaheer, 2012).

A current stream of research challenges the prevailing view on conformity by suggesting that more active strategies than conformance and decoupling may also result in organizational legitimacy. In a recent study, Benner and Ranganathan (2012) capture how the use of an active legitimacy enhancing activity (*i.e.* share repurchase announcements that signal alignment with shareholders' interests), offsets the threats to legitimacy caused by negative analyst's recommendations. More recently, the use of other active strategies such as using political ties (Guo, Xu, & Jacobs, 2014) or engaging in social media strategies (Castello, Etter, & Nielsen, 2015), have also been found to be antecedents of legitimacy. Notwithstanding, the effects of active strategies (*e.g.* manipulation techniques) on legitimacy have been studied since the early work of Elsbach and Sutton (1992). These authors show the usefulness of impression management tactics for organizations who seek legitimacy. Their argument is that organizations require more than passive support, as they also need to gain active support and endorsement from the critical audiences that bestow legitimacy. Therefore, according to Elsbach and Sutton (1992), an organization can use impression management tactics to gain the visibility or attention needed to become legitimate.

Elsbach (1994) further developed the use of active strategies by focusing on discourse as a tactic to manage organizational legitimacy. The role of discourse was also studied by Vaara and coauthors who examine discursive legitimation strategies in and through the media (2006), and specifically the use of these strategies in legitimating multinational corporations (2008). Similarly, Phillips and coauthors (2004) develop a discursive model of institutionalization that highlights the production of texts for legitimacy and/or sense-making purposes, while Etzion and Ferraro (2010) study the role of analogies to existing institutions in providing legitimacy during institutionalization processes. Lastly, Suddaby and Greenwood (2005) describe the role of rhetoric in legitimating institutional change. Although these studies identify a myriad of active strategies to gain legitimacy by means of discourse, they posit a general idea that departs from a passive view of organizations

as recipients of societal evaluations and depicts organizations as active participants that shape societal perceptions in their quest for legitimacy.

A different perspective, Resource Dependence Theory, suggests that an important antecedent of legitimacy is an organizations' engagement in inter-organizational arrangements such as board interlocks, alliances, joint ventures, insourcing, and mergers and acquisitions (Pfeffer & Salancik, 1978). Drees and Heugens (2013), outline three mechanisms that enable organizations to become legitimate through the formation of publicly validated or endorsed inter-organizational arrangements. First, inter-organizational arrangements enable organizations to learn and adopt legitimate practices and structures (Haunschild, 1993). Second, organizations can increase their legitimacy by associating with members of legitimated categories (Zuckerman, 1999). Third, linkages or ties with other organizations that are already legitimate result in legitimacy by association (Baum & Oliver, 1991). This last mechanism was further explored by Dacin, Oliver, and Roy (2007) who identified the conditions under which different types of legitimacy may be an outcome of strategic alliances. These authors identify alliance formation as an antecedent of legitimacy, and define different types of legitimacy that are sought when entering into an alliance (*e.g.* market, relational, social, investment, and alliance). In sum, inter-organizational arrangements are an antecedent of legitimacy for they provide the visibility necessary to the characteristics, practices, and associations that award legitimacy to the focal organization because of their social, symbolic, and signaling characteristics.

All in all, prior work has provided support to the core argument of institutional theory stating that the institutional environment in which organizations operate has a profound influence on their legitimacy (Deephouse, 1996; Glynn & Abzug, 2002; Westphal, Gulati, & Shortell, 1997). Research on the antecedents of legitimacy has shown that legitimacy arises from a wide range of sources such as linkages (Pollock & Gulati, 2007), certification (Sine et al., 2007), mimicry (Khair, 2010), and discourse (Lounsbury & Glynn, 2001). The ways in which organizations

actively acquire legitimacy have also been revealed; from the influence of impression management tactics (Elsbach, 1994) and social media (Castello et al., 2015), to that of inter-organizational arrangements such as board interlocks, alliances, joint ventures, in-sourcing, and mergers and acquisitions (Drees & Heugens, 2013). Lastly, a few studies have explored how organizational legitimacy is generated from unexpected sources such as illegitimate actions (Elsbach & Sutton, 1992) and threatened by other sources such as decoupling (MacLean & Behnam, 2010); which has given rise to research that investigates the strategies used by organizations to defend (Lamin & Zaheer, 2012), repair (Arthaud-Day, Certo, Dalton, & Dalton, 2006), or maintain (Benner & Ranganathan, 2012) their legitimacy. Nevertheless, opportunities to uncover unexplored sources remain, especially in relation to the micro foundations of legitimacy (Bitektine & Haack, 2015) and to the role of legitimacy in networks (Cattani, Ferriani, Negro, & Perretti, 2008; Human & Provan, 2000). Moreover, based on the idea that possibly the antecedents of deeper legitimacy types (*i.e.* cultural-cognitive or normative) differ from those of more superficial, specific ones such as pragmatic or alliance legitimacy, opportunities exist to uncover the different antecedents of the several types of legitimacy listed in Table 1.

Legitimacy as a Mechanism

Several studies use legitimacy as a theoretical mechanism that mediates the relationship between two other variables. In these studies, authors theorize that legitimacy is the mechanism by which a certain predictor results in a given consequence, but do not operationalize or measure legitimacy directly. For instance, Ozcan, Shukla, and Tyler (1997) explore the determinants of organizational effectiveness and efficiency in a study of community mental health centers. In line with Fennell and Alexander (1987) and Smith (2011), these authors conclude that the legitimacy gained by conforming to institutional pressures does not necessarily enhance organizational efficiency, which following Tolbert and Zucker (1983), leads them to argue that legitimacy and efficiency are independent concepts, even though no direct measure of legitimacy is included in their study. Similarly, Chan and

Makino (2007) argue that foreign subsidiary ownership serves a legitimating function, as it allows MNC to simultaneously gain legitimacy externally and manage it internally, but do not empirically test this mediated effect. In a qualitative study, Zott and Huy (2007) identify how entrepreneurial symbolic actions such as conveying the entrepreneur's personal credibility, professional organizing, organizational achievement, and the quality of stakeholder relationships, create the legitimacy used by nascent organizations to facilitate resource acquisition, but provide no empirical support for their argument. Recently, Qian and Wang (2011) suggest that sociopolitical legitimacy mediates the relationship between corporate social performance (hereafter CSP) and financial performance, as it elicits positive responses from stakeholders and access to political support, but their argument remains to be empirically tested. Thus, most studies do not measure legitimacy directly but have used other variables as proxies or have assumed that legitimacy has an effect.

Hence, our review suggests that several studies have used the construct of legitimacy as an explanatory mechanism for the relationship between two variables, rather than as a variable in hypotheses testing. This 'taken-for-grantedness' of the concept of legitimacy provides opportunities for future research to focus efforts on a complete and careful operationalization of this construct as a mechanism. Specifically, a first step in order to further advance our understanding of the role of legitimacy as a mechanism is to operationalize legitimacy as a mediator when studying a multivariate unidirectional relationship between concepts. In other words, when legitimacy is identified as the mechanism that underlies a causal relationship between two variables (*i.e.* the effect of one variable on another is theorized to exist due to legitimacy), mediating effects need to be tested in order to show that legitimacy is indeed the explanatory link or the intermediate variable between the concepts of interest. Thus, the operationalization of legitimacy as a mediator will permit a refined understanding of the role of legitimacy as a mechanism. The challenge associated with empirically testing the mediating role of legitimacy is that

doing so requires careful attention to possible endogeneity issues, most likely due to the presence of simultaneity or reverse causality (Bascle, 2008).

Legitimacy as a Moderator

Scholars have rarely examined the role of legitimacy as a moderator, and those that have done so, have mainly used legitimacy as a moderator in studies where the outcome is a measure of performance. For instance, Koh, Qian, and Wang (2013) study the different role of pragmatic and moral legitimacy in the relationship between corporate social performance (CSP) and firm value. Their argument being that pragmatic and moral legitimacy are essential if CSP is to be beneficial; in other words, these authors find that the benefits from CSP depend on stakeholder's acceptance and support (*i.e.* legitimacy). In a similar vein, Petkova, Rindova, and Gupta (2012) show that media legitimation moderates the relationship between sensegiving activities and the level of funding obtained by venture capital investors. These authors also propose that the attention by different types of media (*i.e.* specialized vs general) has a differential effect on the venture's perceived value. Similarly, Bell, Filatotchev, and Aguilera (2014) study how the effect of IPO's governance mechanisms on investor value perceptions is contingent on regulative and normative legitimacy. They find that "nested" legitimacy – firm level normative legitimacy and country level regulative legitimacy - explains variations in the effect of IPO governance mechanisms on investor's value perceptions. Recently, Cordeiro and Tewari (2015) propose that market legitimacy moderates the relationship between environmental disclosure and investors' reaction, for the stock market reacts positively to environmental investments by firms that are deemed as legitimate. In a somewhat different work, Desai (2008) studies the moderating effect of normative legitimacy on the relationship between risk taking and organizational performance. Desai (2008) proposes that for organizations performing below aspiration levels, legitimacy gives the confidence necessary to take risks that result in above aspiration performance. Overall, the moderating role of legitimacy has hardly been tested, although some isolated progress has been done by different streams of research, such as CSR, corporate governance, risk taking, and

sensegiving. Whereas this section identified the moderated effect of legitimacy on performance, the following section is oriented towards understanding whether legitimacy alone may be adequate to determine organizational performance.

Outcomes of Legitimacy

Legitimacy has been used across various theoretical perspectives to explain a wide range of phenomena, such as entrepreneurship (Lounsbury & Glynn, 2001; Maguire, Hardy, & Lawrence, 2004; Sine et al., 2007), stakeholders success (Agle, Mitchell, & Sonnenfeld, 2012; Eesley & Lenox, 2006), innovation (Rao, Chandy, & Prabhu, 2008), multinational enterprises (Bhanji & Oxley, 2013; Hillman & Wan, 2013; Kostova & Zaheer, 1999), and institutionalization processes (Scherer & Lee, 2002). However, the original argument by Meyer and Rowan (1977) relates to the survival benefits of legitimacy. Meyer and Rowan (1977) argue that legitimacy considerations are independent from efficiency concerns as organizational survival also depends on gaining legitimacy. Empirical support for this basic premise has been found by studies focusing on the impact of legitimacy on organizational survival (Deephouse & Suchman, 2008). For instance, Baum and Oliver (1991), show that institutional attachments contribute to organizational survival when investigating the influence of organizational linkages in Toronto childcare services. Ruef and Scott (1998) find as well that US hospitals considered to be legitimate enhance their probability of survival. Similarly, Singh, Tucker, and House (1986) found that organizational legitimacy decreases organizational death rates. Therefore, prior research has empirically supported the basic premise of organizations need to be deemed legitimate in order to survive.

Although traditionally institutional theory literature has argued that an organization's quest for legitimacy is not driven by the enhancement of efficiency or effectiveness (DiMaggio & Powell, 1983; Meyer & Rowan, 1977), research has departed from this early argument with the premise that legitimacy matters for performance (Oliver, 1991; Suddaby, Foster, & Trank, 2010). Particularly, scholars have presumed that legitimacy benefits go beyond explaining organizational survival

as legitimacy also has an impact on financial performance. Hence, in this section we focus on uncovering the performance consequences of legitimacy in an attempt to contribute to research that has strived to understand and explain the sources of variation in organizational performance (March and Sutton, 1997).

There are conflicting perspectives on whether legitimacy can be translated into a performance advantage (Heugens & Lander, 2009). Some scholars find support for the idea that the quest for legitimacy limits or conflicts with organizational performance, as legitimacy results in greater industry rivalry, increases competition for scarce resources, and lowers the potential for differentiation (Deephouse, 1999). In line with these arguments, Westphal, Gulati, and Shortell (1997: 388) find that adoption of Total Quality Management (TQM) legitimates the organization at the cost of its performance, since “later adopters trade organizational efficiency benefits for legitimacy benefits by conforming to isomorphic pressures”. Similarly, Barreto and Baden-Fuller (2006) study Portuguese banks branching decisions and find that location decisions driven by legitimacy concerns (*i.e.* the decision to locate a bank branch with reference to the branching behavior of legitimate rivals) negatively impact performance. Moreover, David and coauthors (2007) find evidence of the legitimacy gained from symbolic responses (*i.e.* decoupling) being negatively associated with CSP. Esteban-Lloret *et al.* (2014), also find a significant negative influence of legitimacy on the financial performance of organizations when studying management training. Hence, these studies posit that the quest for legitimacy may not simultaneously contribute to performance, and find support for the trade-off between legitimacy and performance (Heugens & Lander, 2009).

In contrast, researchers currently subscribe to the idea that legitimacy positively affects performance (Scott, 2008). According to Suchman (1995), social audiences are most likely to supply valuable resources and external support to legitimate organizations, both of which are necessary for the organization to perform well. Legitimacy, thus, enhances performance by portraying the organization as

meaningful, predictable, and trustworthy for relevant audiences (Aldrich & Fiol, 1994; DiMaggio & Powell, 1983; Suchman, 1995), which results in support (Hiatt & Park, 2013), attention (Madsen & Rodgers, 2015), and access to scarce resources (Dowling & Pfeffer, 1975). Prior research has found evidence to support a positive effect of legitimacy on financial performance. For example, Oliver (1997), in the context of the Canadian construction industry, shows that compliance increases organizational profitability and productivity when institutional pressures are strong. Along the same lines, Bansal and Clelland (2004) use a different measure of financial performance, unsystematic risk, and find support for their hypothesis that organizations with legitimacy experience lower unsystematic risk. Similarly, Pollack, Rutherford, and Nagy (2012), study new venture pitches to equity financiers, and find that those pitchers that established legitimacy for their venture received a larger amount of funding. Moreover, Eapen and Krishnan (2009) find that the legitimacy gained from conformity benefits the performance of the focal organization, and that these performance benefits are greater for small than for large firms. In sum, the main performance benefits associated with legitimacy are: i) legitimacy enhances not only access to scarce resources and competences, but also to new geographical and product markets; ii) legitimacy increases the organization's ability to attract the best partners, which reduces transaction costs and increases efficiency; and iii) legitimacy neutralizes opposition or contestation (Dacin et al., 2007). All in all, several studies have found a positive relationship between legitimacy and performance (Deephouse, 1999), and have shown that legitimacy is not independent of performance (Lien & Klein, 2012).

A small stream of research has focused on evaluating the positive effects of legitimacy on IPOs' performance. In a conceptual paper, Certo (2003) suggests that organizational legitimacy, signaled by board prestige, positively influences IPOs' stock performance since it reduces the likelihood of failure for firms undertaking IPOs by allowing managers to raise more capital. In an empirical paper, Pollock and Rindova (2003) find that media coverage, which reflects the legitimacy of an IPO,

decreases underpricing by affecting the perceived value and the salience of new public firms. Similarly, Gulati and Higgins (2003) show that legitimacy positively affects a young firm's initial IPO by attracting prestigious investment banks as underwriters. Lastly, Cohen and Dean (2005) demonstrate that the legitimacy of an IPO's top management team reduces information asymmetries between the firm and potential investors, which results in lower levels of underpricing. In sum, most work evaluating the role of legitimacy on IPOs has also found support for the positive effect of legitimacy on stock market prices (Zuckerman, 1999).

In contrast, other authors posit that legitimacy has no impact on performance, which is in line with the idea that the quest for legitimacy is independent of performance considerations (Meyer & Rowan, 1977). For instance, Staw and Epstein (2000) find that organizations adopt popular management techniques because of legitimacy concerns, but these adoptions do not affect their economic performance. Similarly, Wang (2010) finds that adoption and implementation of legitimated IT practices in fashion does not result in performance changes in the short-run. This is in line with the findings of Lo, Yeung and Cheng (2011), who uncover no performance effects for firms adopting the ISO 9000 certification. Moreover, Guo, Xu, and Jacobs (2014) find that regulative legitimacy has no influence on a firm's performance. Thus, even though the theoretical literature examining the relationship between legitimacy and performance is rich, most empirical studies testing this relationship have found no clear effect.

In sum, empirical studies measuring legitimacy have predicted an effect of legitimacy on performance but have produced inconclusive results. That is, prior studies report varying effects of legitimacy on performance; either a positive, neutral, or negative relation. In order to consolidate this rich empirical literature, in the following section we study the evidence on the relationship between legitimacy and performance using meta-analysis techniques. By doing so we extend prior meta-analyses on similar related concepts, such as: Orlitzky et al. (2003) who study the relationship between corporate social responsibility and corporate financial

performance; Drees and Heugens (2013) who consolidate the main predictions of Resource Dependence Theory; and, Bogaert et al. (2014) who provide an assessment of density dependent legitimacy using population ecology theory. Moreover, although our meta-analysis is similar to that of Heugens and Lander (2009) as it aims to address a central debate in institutional theory, our work differs from theirs because we specifically focus on the relationship between legitimacy and performance, whereas these authors study the relationship between institutional pressures and isomorphism, and between isomorphism and symbolic and substantive performance.³ Therefore, the contribution of our meta-analysis relative to that presented by Heugens and Lander (2009) is that we directly test the relationship between legitimacy and performance, instead of the relationship between adjacent concepts (*i.e.* isomorphism or conformity) and performance.

Part II: A Meta-analysis on the Performance Consequences of Legitimacy

Previously, we reviewed existing theoretical and empirical literature focusing on the relationship between legitimacy and performance. The findings of extant literature on this relationship as suggested by the discussion above are contradictory; legitimacy is found to be performance-enhancing, performance-eroding, and/or performance-neutral. The importance of performance as arguably the ultimate dependent variable of interest in organizational research, along with the contrasting fragments of evidence regarding the effect of legitimacy on organizational performance (Miller et al., 2013), encouraged us to study the relationship between these concepts using meta-analysis. Meta-analytic techniques integrate all the relevant findings in relating to a given relationship. Consequently,

³ These authors define each of the study concepts as follows (Heugens & Lander, 2009: 68):

- Institutional pressures: coercive, mimetic, and normative pressures.
- Isomorphism: “The structural and strategic resemblance of one unit in a population to other units in that population, especially those facing similar institutional- and task-environmental conditions”.
- Symbolic performance: “The extent to which organizations generate positive social evaluations”.
- Substantive performance: “The extent to which organizations generate accounting-based profits or increase their overall market value”.

the results of a meta-analysis are more objective and exact than those of any particular, individual study, allowing for an unbiased interpretation of the relationship between two concepts (Hunter & Schmidt, 1990). In the following sections, we outline the methodology and results of our meta-analysis on the performance consequences of legitimacy.

Literature search

Based on Geyskens and coauthors (2009), we identified studies for our meta-analysis by searching for articles in major databases in the field of organization and management for the period 1960-2015. We delineated the boundaries of our study by searching studies that used the keyword legit* (to capture studies on legitimacy, legitimation, legitimate, etc.) together with perform* (to capture studies on perform or performance) in the abstract or keywords. We first conducted a targeted search for articles in JSTOR, ECONLIT, PROQUEST, ISI Web of Science, and SSRN.⁴ Second, we searched all issues published over the last 55 years in the following top academic journals in the field of organization and management: *Academy of Management Journal*, *Administrative Science Quarterly*, *Journal of International Business Studies*, *Journal of Management*, *Management Science*, *Organization Science*, and *Strategic Management Journal*. Third, we examined the references listed in prior meta-analyses and in relevant articles on legitimacy (Aldrich & Fiol, 1994; Bitektine & Haack, 2015; Bitektine, 2011; Bogaert, Boone, Negro, & van Witteloostuijn, 2014; Certo, 2003; Fisher, Kotha, & Lahiri, 2015; Gioia, 1999; Harmon, Green, & Goodnight, 2015; Heugens & Lander, 2009; Kostova & Zaheer, 1999; Suchman, 1995; Vergne, 2011; Zimmerman & Zeitz, 2002). Fourth, we sent a request for studies to 33 researchers identified from our database of studies. This procedure, which enabled us to conduct a broad search so that we did not exclude any relevant studies, resulted in 2,940 articles.

⁴ This broad search addresses publication bias or the “file-drawer” problem as it also searches for unpublished studies and work in progress. Additionally, we run Stanley (2005) formal test to confirm the absence of publication bias ($p\text{-value}=0.562$), the results are available from the authors upon request.

Data collection procedure

To identify the relevant studies to be included in the review, we read the abstracts of all the retrieved articles. We eliminated articles that use legitimacy in an everyday or nonacademic manner, or that use legitimacy but not as a central concept of study, which reduced the sample to 260 studies. Next, for a study to be included in the meta-analysis, it had to meet the following conditions. First, it had to use the construct of legitimacy as a generalized perception of social acceptance (Scott, 2008; Suchman, 1995), and it had to use legitimacy as a central construct of study or as central to the conceptual argument presented. Second, it had to report the pairwise correlation between legitimacy and performance, and the sample size, as these values are required for conducting the meta-analysis (Lipsey & Wilson, 2001). Third, because our interest is in understanding the use of legitimacy in organization and management research, we excluded studies that explore legitimacy at the micro-level. A total of 84 studies were eligible for inclusion in the meta-analysis; of these studies, 17 were unpublished at the time of data collection, which suggest that publication bias is not significant. The significant reduction in the number of studies is either due to the abundance of studies where the concept of legitimacy is used to develop the theoretical argument but not directly operationalized (*i.e.* mechanism), or to the large number of theoretical and qualitative studies (see Figure 2).

Insert Figure 2 about here

Estimation

Correlations between legitimacy and performance were recorded for each study. In order to achieve independence among the correlation coefficients included in the meta-analysis, we included only one correlation per study and chose to record the correlation which was based on the largest main sample. All the recorded correlations were selected based on the operationalization of the constructs of interest, as presented in Table 2. After recording the correlations, we corrected for measurement error and for dichotomization of variables following Geyskens *et al.* (2009). We used standard meta-analysis techniques to transform the extracted correlations into Fisher's z-coefficients (Hunter & Schmidt, 1990). We then meta-

analyzed the resulting corrected correlations by taking the average and weighting the individual effects by an estimate of the inverse of its variance, and reconverted the pooled z-transformed effects back to correlation coefficients (Lipsey & Wilson, 2001). Next, we calculated a 95 percent confidence interval around the correlation coefficient.

Insert Table 2 about here

Results

Table 3 reports the meta-analysis findings. It presents the number of effect sizes reported (k) and the total observations (N), the mean (r) and average corrected (\bar{p}) correlations, the corresponding standard error (SE), the 95% confidence interval for \bar{p} , and the tests for homogeneity (Q , I^2).

Insert Tables 3 and 4 about here

The correlation coefficient for the relationship between legitimacy and performance is 0.081. Thus, the correlation between these two concepts can be classified as rather small by conventional standards. The 95% confidence interval ranges from 0.073 to 0.088; the significant deviation from 0 suggests that there is a positive relationship between these two concepts. Moreover, the significant Q test for homogeneity reveals the presence of heterogeneity and suggest that there are unknown moderators in this relationship. The indication of heterogeneity is also supported by the value of the I^2 statistic; typically an I^2 greater than 75% indicates considerable heterogeneity (Higgins, Thompson, Deeks, & Altman, 2003). Hence, the meta-analysis reveals that the bivariate correlation between legitimacy and performance is on average positive but small, and indicates the presence of unobserved moderator variables given the high percentage variance that can be attributed to artifacts.⁵ A potential explanation for the low correlation found could be

⁵ In order to control for the large sample size of three of the studies compared to the sample size of the other studies, we analyzed the data with and without these studies and find no significant variation in the results ($r=0.129$, $\bar{p}=0.129^*$). The detailed results excluding these studies are available from the authors.

the presence of a non-linear relationship between legitimacy and performance. Although most studies formalize a linear relationship between the two concepts, a curvilinear relationship seems theoretically appealing, as it will naturally attenuate the correlation coefficients reported in the studies.

Our results are in line with those of prior meta-analysis in the field of organization and management that find a substantial heterogeneity of the effect size. Geyskens and coauthors (2009) suggest the use of a random effects model to obtain more conservative estimates when there is high variation between studies. In meta-analysis, the random effects model assumes that each study has a different effect size, whereas under the fixed-effects model the assumption is that the effect size is homogenous across studies. Given the presence of heterogeneity, we employ a random effects model and report the estimates in Table 4. The results are highly similar to those reported in Table 3.

The findings of our meta-analyses provide strong support for relationship between legitimacy and performance. That is, our results provide evidence that legitimacy can be translated in a performance advantage (Suddaby et al., 2010). At the same time, our results reignite the debate surrounding the meaning and measurement of legitimacy as a variable in hypothesis testing. According to these results, research has neither fully explored the mechanisms, nor identified the processes, or defined the conditions by which legitimacy has an impact on performance. Perhaps the most important implication of our findings is that we cannot unambiguously predict whether performance decreases or increases over time given the presence or absence of legitimacy because multiple moderators may link these two concepts. In other words, the positive correlation between legitimacy and performance yields limited insights because a number of moderators could have either negative, neutral, or positive effects, which makes the net effect indeterminate. However, prior studies of legitimacy have not sufficiently determined which moderators play a role in this relationship, which suggests that a promising avenue for future research is to examine possible moderators of the association

between legitimacy and performance. Further research focusing on the factors that moderate the relationship between legitimacy and performance is, according to our analyses, more promising than research looking at the main effect, as it will serve to identify the conditions under which the positive impact of legitimacy on performance can be strengthened or weakened (either zero or even negative). Although our meta-analysis disentangles the relationship between legitimacy and performance, our results point to the importance of future research that will enhance our understanding by identifying the moderators that matter the most.

Discussion

Our meta-analysis shows that the positive relationship between legitimacy and performance is heterogeneous, implying the presence of unobserved moderators. This finding, along with the previous review of the concept of legitimacy, motivate us to explore possible mechanisms that affect the legitimacy-performance relationship. As an attempt to uncover these mechanisms, we present a model in Figure 3. The proposed model depicts the moderated relationship between legitimacy and performance to be contingent upon the nature of the antecedents of legitimacy.

Insert Figure 3 about here

Following Devers, Dewett, Mishina, and Belsito (2009), the first column of Figure 3 classifies the antecedents of legitimacy in three different categories: individuating, non-individuating, and de-individuating. Individuating refers to antecedents that set the organization apart from other organizations by conveying its unique aspects; that is, individuating antecedents differentiate organizations. In contrast, non-individuating antecedents relate to the organization's conformance to the institutional environment or imitation of other organizations; as a result, they lead to isomorphism in the organizational field and do not convey the unique aspects of the organization. Lastly, de-individuating antecedents do not set the organization apart from others; instead, they de-individuate the organization by diminishing its

differentiation or increasing its sharpness (Hsu & Hannan, 2005). Thus, we build on the work of Devers et al. (2009) who define legitimacy as a non-individuating construct, but differ from these authors in that we posit that different antecedents of legitimacy affect the non-individuating nature of this construct, such that some antecedents may result in individuating or even de-individuating legitimacy.

The second column of Figure 3 identifies some potential moderators of the relationship between legitimacy and performance. The model suggests that organizational and field-level moderators affect the direction and/or strength of the relationship between legitimacy and performance. Organizational moderators such as age, size, industry, scope, ownership structure, TMT and complexity, represent core organizational features. First, age has been commonly studied by researchers in the organizational ecology tradition (Hannan & Freeman, 1984); the basic argument being that over time organizations identify what is deemed appropriate and reproduce it (*i.e.* become more legitimate), which reduces their risk of failure (*i.e.* increases performance). Second, from an organizational ecology perspective, size has been found to be associated with a significant increase in legitimacy and to result in higher performance, as larger organizations are more likely to survive than smaller organizations (Ruef & Scott, 1998). Third, industry captures the idea that the performance benefits of legitimacy vary between emerging *vs.* established industries (Aldrich & Fiol, 1994; Sine et al., 2005) or between for-profit *vs.* nonprofit organizations (Ruef & Scott, 1998); and simultaneously refers to the fact that organizations operating in related industries command similar types of legitimacy when compared to organizations that belong to different industries. The next two moderators are related to international organizations for which it is expected that legitimacy confers distinct benefits to performance (Kostova & Roth, 2002; Lu & Xu, 2006). On the one hand, scope refers to the extent to which organizations operate internationally, as international organizations may potentially suffer from liability of foreignness (Kostova & Zaheer, 1999; Lu & Xu, 2006). On the other hand, ownership structure moderates the relationship between legitimacy and

performance especially for organizations that enter new markets (Chan & Makino, 2007). The sixth moderator is the composition of the top management team (TMT); this micro-level moderator can affect the performance benefits associated with legitimacy because the characteristics of the TMT can significantly influence resource allocation (Certo, 2003; Cohen & Dean, 2005; Higgins & Gulati, 2006). Finally, the last moderator is the complexity or simplicity of the organizational form. According to Zuckerman et al. (2003), simple organizational forms contain less dimensions than complex organizational forms, which eases the definition of what is legitimate in the former *vis-à-vis* the latter case. In other words, the dimensionality of organizational forms suggests that organizations that exhibit simple organizational forms are more likely to reap the performance benefits of legitimacy, when compared to organizations with more complex forms.

Field-level moderators of the relationship between legitimacy and performance are a function of industry structure. Firstly, the distribution of resources within the industry in which the organization operates affects competition within the industry, such that in industries where resources are homogeneously distributed competition is fiercer than in industries that have undergone resource partitioning (Yu, Sengul, & Lester, 2015). Secondly, in contested industries such as tobacco, arms, and alcohol, field disruptions might extend beyond the single organization to the organizational field, and as a result, organizations in contested industries are more likely to face impaired access to resources due to the lack of consensus among key audiences (Desai, 2011; Jonsson et al., 2009). Thirdly, technological shifts that entail a change in an industry profit model as a result of innovation that results in new technologies, may disrupt the potential performance benefits of legitimacy for organizations in the affected industry (Benner & Ranganathan, 2012). Fourth, the degree of interdependence among organizations in a given industry determines the repeated interactions between organizations and alters the associated performance benefits of legitimacy. Therefore, under different levels of interdependence legitimacy becomes a necessary condition to maintain a certain degree of

connectivity with other organizations in the industry, but not a sufficient condition to attain good performance (Cattani et al., 2008). Lastly, visibility refers to the extent that the industry in which the organization operates attracts societal attention. As posited by Dowling and Pfeffer (1975), visible organizations depend more heavily on support and acceptance from a wider segment of society for their economic performance.

The third column of Figure 3 identifies the performance consequences of the moderated relationship based on the nature of the antecedents of legitimacy. The first row of Figure 3 proposes that legitimacy resulting from individuating antecedents is performance enhancing. This is because the individuating antecedents of legitimacy not only result in social approval or acceptance but also in differentiation for the organization. That is, individuating antecedents differentiate the organization by highlighting its distinctive attributes, which results in active support from relevant audiences that control critical resources and positively affect organizational performance (Deephouse, 1999). Hence, individuating antecedents not only result in organizational legitimacy, but simultaneously allow an organization to differentiate itself from others while still being perceived as demonstrating appropriate standards and structures, and invite or attract audiences to confer active support for the organization, both of which result in better performance outcomes.

The second row of Figure 3 proposes that the legitimacy resulting from non-individuating antecedents is performance neutral. That is, under non-individuating antecedents organizations become more similar to each other. The lesser differentiation between organizations that use non-individuating antecedents to gain legitimacy is a double-edged sword: it is useful because relevant audiences have no reason to disapprove of the complying organization, but at the same time, relevant audiences have few elements to attract their attention, and thus bestow active support and critical resources, to the focal organization. Therefore, non-individuating antecedents result in isomorphism and deemphasize the level of

differentiation between conforming organizations, both of which are expected to have a neutral impact on their performance.

The final row of Figure 3 proposes that legitimacy resulting from de-individuating antecedents, such as decoupling, is performance eroding. As mentioned before, decoupling is the symbolic compliance with institutional norms; that is, the appearance of compliance without making any substantive changes to the organization's processes (Meyer & Rowan, 1977). Prior research has shown that the outcomes of decoupling are twofold. On the one hand, in the short-run relevant audiences bestow the organization with legitimacy, which is performance enhancing (Westphal & Zajac, 1998). On the other hand, as shown by Maclean and Behnam (2010), decoupling results in the institutionalization of misconduct as organizations learn to symbolically comply while substantively deviate from regulative pressures. Therefore, decoupling results in organizational legitimacy and, simultaneously, in the institutionalization of misconduct. The latter implies that deviant practices in the organization become 'business as usual', which increases the likelihood of the deviance being uncovered (Devers et al., 2009). If uncovered, the organization is classified as being part of a fundamentally flawed or deviant group (Ashforth & Humphrey, 1997), which then reduces its access to resources as stakeholders may disengage or reduce the quality and quantity of transactions with the organization (Sutton & Callahan, 1987). Thus, the legitimacy gained from de-individuating antecedents is performance eroding, provided the symbolic conformance or the substantial deviance are uncovered.

In sum, Figure 3 presents a model that uncovers the dynamics of legitimacy. Specifically, the proposed model depicts the relationship between the antecedents and consequences of legitimacy as moderated and contingent upon the individuating nature of the antecedents of legitimacy. The model further suggests that organizational and industry characteristics moderate the relationship between the antecedents and outcomes of legitimacy. In brief, the proposed model suggests that individuating legitimation efforts allow relevant audiences to provide active support

to a specific organization, which translates into performance benefits. Moreover, non-individuating antecedents of legitimacy imply that the focal organization gets passive support, which has no impact on its performance. In contrast, when using de-individuating antecedents in its quest for legitimacy, the organization may obtain legitimacy in the short-run but undermine its performance in the long-run.

Future Research

The studies reviewed highlight that legitimacy plays a central and increasing role in the organization and management scholarship. The diversity in legitimacy research also highlights its potential to theoretically and empirically inform a wide range of research questions. Therefore, in this section, we identify a subset of topics on which future research efforts can focus that are aimed at advancing our understanding of the concept of legitimacy in organization and management research.

Legitimacy as a non-dichotomous concept. An unexplored area of research is that of the conceptualization of legitimacy as a continuous concept. Prior research has theoretically characterized legitimacy as being dichotomous, that is, an organization either has or does not have legitimacy (Bitektine, 2011; Tost, 2011). Although it has been noted that the concept of legitimacy is difficult to manipulate empirically, to date measures of legitimacy have been somewhat disconnected from the theoretical conceptualization of legitimacy as a dichotomous concept (Vergne, 2011). For instance, media-based measures (*e.g.* Janis-Fadner coefficient of imbalance), which are the most widely used measures of legitimacy, result in a continuous coefficient that can take any value between -1 and 1. Moreover, measures of organizational linkages can also be continuous as they often times are a cumulative count of the number of ties between the organization and a certain actor(s) in its environment. Hence, besides adoption that is usually measured with a dummy indicator, the current measures of legitimacy do not align well with the theoretical understanding of legitimacy as a dichotomous concept. Moreover, the idea of legitimacy being a continuous, instead of a dichotomous concept, is

theoretically appealing. Adopting this view on legitimacy would require, however, acknowledging that creating legitimacy is the result of the legitimation process, and therefore, that legitimacy is not only present or absent as it is unlikely that societal evaluations will change from one extreme to the other without including some intermediate points. That is, organizational legitimacy derives from the process of legitimation which occurs over time and which continuously changes organizational legitimacy by threatening or enhancing it. Hence, by abandoning the dichotomous approach to legitimacy, researchers will be able to include changes in the process of legitimation that over time may result in outcomes where there is no convergence on the societal acceptability or desirability of the organization (Bitektine, 2011). In other words, understanding legitimacy as a non-dichotomous variable will advance research by allowing legitimacy outcomes to reflect disagreements or polarization in the evaluation of society members, instead of favoring uniformly distributed evaluations (Zimmerman & Zeitz, 2002). In the same way, this will provide some insights into the non-linear nature of legitimacy discussed earlier. We thus hope that scholars will address the mismatch between conceptualization and measurement, as doing so will contribute to the advancement of the collective knowledge of the field.

Legitimacy and illegitimacy. Whereas some authors have defined illegitimacy in line with Suchman (1995) as “the generalized perception that an entity’s actions are undesirable, improper or inappropriate within a socially constructed system of norms, beliefs, and definitions” (Glynn & Marquis, 2004: 150); others have defined illegitimacy as negative legitimacy resulting from negative societal evaluations (Crane, 2013; Elsbach & Sutton, 1992; Farrell & Petersen, 1982; Hudson, 2008; Kraatz & Zajac, 1996) or as the lack of legitimacy (Benner & Ranganathan, 2012; Dougherty & Heller, 1994; Sonenshein, 2016; Zuckerman, 1999). Thus, there seems to be no agreement on a definition of the concept of illegitimacy, which is exacerbated by the fact that often times this term has been used without being defined (Ashforth & Gibbs, 1990; Bansal & Clelland, 2004b). Moreover, little is known about the antecedents and consequences of illegitimacy;

while some studies have uncovered the negative effects of illegitimacy (Bansal & Clelland, 2004b; Farrell & Petersen, 1982; Sullivan, Haunschild, & Page, 2007; Zuckerman, 1999), other studies have found no negative consequences associated with illegitimacy (Kraatz & Zajac, 1996) or have even associated positive effects to illegitimacy (Elsbach & Sutton, 1992). Simultaneously, researchers have attempted to reveal the strategies that organizations use to offset growing illegitimacy (Benner & Ranganathan, 2012; Sonenshein, 2016), but just a few efforts have attempted to uncover the dynamics associated with related concepts such as organizational stigma (Hudson & Okhuysen, 2009; Hudson, 2008). However, seeing the concept of legitimacy in terms of a continuous dimension of legitimacy or illegitimacy has the effect of suggesting that organizations can be both legitimate and illegitimate. Instead, we argue that legitimacy and illegitimacy are not necessarily opposites, in the sense that separating these two concepts creates a zone of neutrality (*i.e.* lack of legitimacy) that allows an organization to go from legitimate to neutral, and from neutral to illegitimate. That is, we suggest that breaking the continuous dimensions associated with the concept of legitimacy and introducing the idea of lack of legitimacy, opens up the possibility that organizations may lack legitimacy but not necessarily be illegitimate. As attempts to differentiate these concepts have been limited, addressing the differences between legitimacy, lack of legitimacy, and illegitimacy will lay the foundation for a more nuanced understanding of the concept of legitimacy, and will provide a better evaluation of what is legitimate and what is not. Lastly, disentangling legitimacy and illegitimacy can prove to be a fruitful avenue for future research as it will contribute to our understanding of the persistence of illegitimacy (*e.g.* “sin” industries), of whether this persistence is a precursor or a consequence of institutional change (Tost, 2011), and of how illegitimacy may become “institutionalized” (Bitektine & Haack, 2015).

Legitimacy as a dynamic concept. Although legitimacy has been at times considered as static, it is a dynamic concept by nature (Cattani et al., 2008). At the level of organizational populations, research from an organizational ecology

perspective has studied legitimacy as a process (Haveman, 1993). This stream of research conceptualizes legitimacy at the level of the population as a density-dependent process in which legitimacy grows with density at a decreasing rate while competition does so at an increasing rate (Hannan et al., 1995). At the organizational level, prior research has also attempted to depict the dynamic nature of legitimacy. For example, Kostova and Zaheer (1999: 66) define legitimation as a “process by which the environment builds its perceptions of the organization”. In the case of the multinational enterprise, these authors recognize that legitimation is a process that involves ongoing interactions with the environment as well as continuous evaluations of the organization. Similarly, Vaara and Monin (2010) in their study of postmerger organizational dynamics reveal that legitimacy is not static, instead, it evolves over time with different organizational and institutional factors influencing it. Despite previous efforts, future research assessing legitimacy at different points during an organization’s lifetime will allow uncovering the different stages in the legitimation process and will show how changes in the institutional environment in which organizations operate result in different legitimacy assessments (Vaara & Monin, 2010). Moreover, research that theorizes and tests the different stages in the process of legitimation as related to the different dimensions of legitimacy, and to how this process unfolds, will also advance empirical work that has attempted to explain the different antecedents and consequences of the process by which organizations lose their legitimacy, namely the process of delegitimation (Greenwood, Suddaby, & Hinings, 2002; Hudson, 2008). Finally, research that links the process of deinstitutionalization to changes in the legitimacy of the organization will bring much need clarity as it will disentangle the concepts of deinstitutionalization and delegitimation (Oliver, 1992).

Legitimacy as a multi-dimensional concept. With respect to the previous discussion on the different dimensions of legitimacy, further research is needed to understand the differential antecedents for each type of legitimacy and the different outcomes associated with each dimension (see Table 1). Moreover, exploring the

antecedents and consequences of a misalignment between different types of legitimacy may also provide an interesting area for future research. For example, by conforming to tobacco control regulations tobacco companies may gain regulative legitimacy, however, the misalignment between their core business (*e.g.* cigarettes) and societal welfare may threaten their normative legitimacy. Therefore, research that explores how the misalignment between different types of legitimacy is brought about, and the consequences that this misalignment has on organizations, may contribute to our understanding of how in some situations one type of legitimacy has primacy over others. This is especially important in contested empirical settings where we can observe varying combinations of types of legitimacy with different levels of alignment, although it may also happen in stable empirical settings where the development of new practices or businesses may break the existing alignment and promote situations where legitimacy is threatened.

Legitimacy as a multi-level concept. Our last suggestion for future research concerns the level of analysis at which scholars conceptualize and operationalize the concept of legitimacy. As mentioned before, given that the great majority of articles in the organization and management literature focus on organizational legitimacy, our review and meta-analysis mainly analyze studies at the meso-level of analysis, yet prior work has also used the concept of legitimacy at the micro and macro levels. Research at the micro-level tends to conceptualize individual legitimacy, whereas macro-level studies predominate at the level of the industry, population, or organizational field. Although differences exist among levels of analysis, we argue that the concept of legitimacy has the potential to address phenomena at any given level (Aldrich & Fiol, 1994). For instance, multilevel research can help uncover the dynamics associated with legitimacy threats, as often times these threats originate at the micro and meso levels and spread to the macro level (*e.g.* there is a transition from attention to individual organizations to attention to the industry). Therefore, given that meso-level relationships are constrained and enhanced by micro and macro level processes and *vice versa*, future research adopting multiple levels of

analysis in the theorization and operationalization of legitimacy (*e.g.* simultaneously considering an organization's internal and external legitimacy), will contribute to the development of a multilevel and cross-disciplinary view of legitimacy.

Conclusion

In recent decades, the use of legitimacy as a construct of study has exceeded previous boundaries and expanded into the broader organization and management literature. In this review, we clarify the construct of legitimacy by: i) identifying, organizing, reviewing, summarizing, and analyzing existing theoretical and empirical research, and ii) proposing a framework to guide the future research agenda. Specifically, we examine the antecedents of legitimacy, provide an overview of the use of legitimacy as a moderator or mechanism, and contribute to the debate on the consequences of legitimacy by conducting a meta-analysis of the performance consequences of legitimacy. Thus, in this review we contribute to organization and management research and provide much needed clarity to the literature by synthesizing existing research that has tackled the construct of legitimacy, by examining the performance consequences of legitimacy, and by identifying a number of important issues that merit further scholarly research.

Table 1: Dimensions of legitimacy

Dimension	Definition	Key references	Operationalization (<i>selected studies</i>)
Cognitive Legitimacy	Taken-for-grantedness.	Aldrich & Fiol (1994: 645), Suchman (1995), Scott (1995)	Survey instruments (Choi & Shepherd, 2005); Frequency of media coverage (Sine, Haveman, & Tolbert, 2005); Increase in population density (Carroll & Hannan, 1989)
Corporate Governance Legitimacy	Practices and structures within a nation that are perceived to result in corporate behavior that is appropriate to meet societal needs.	Judge, Douglas, & Kutan (2008)	A national index reflecting the degree to which shareholder rights are protected (Judge, Douglas & Kutan, 2008)
Corporate Environmental Legitimacy	The generalized perception or assumption that a firm's corporate environmental performance is desirable, proper, or appropriate.	Bansal & Clelland (2004: 94)	Janis-Fadner coefficient (Bansal & Clelland, 2004)
Managerial Legitimacy	Normative support for organizational mechanisms.	Ruef & Scott (1998: 883)	Accreditations (Ruef & Scott, 1998)
Moral (Normative) Legitimacy	Normative evaluations of an organization and its activities.	Suchman (1995: 579); Scott (1995)	Janis-Fadner coefficient (Deephouse, 1996; Deephouse & Carter, 2005; Lamin & Zaheer, 2012); Membership in a socially contested industry (Koh, Qian & Wang, 2014)
Pragmatic Legitimacy	Self-interested calculations of an organization's most immediate audiences.	Suchman (1995: 578)	Firm value (Koh, Qian & Wang, 2014); past financial performance (Wang & Qian, 2011)
Regulative Legitimacy	Conformance with relevant legal requirements.	Scott (1995: 61), Stryker (1994)	Government's regulatory ratings (Deephouse, 1996; Deephouse & Carter, 2005); Government financial support (Sine, Haveman & Tolbert, 2005); Legal endorsements (Sine et al., 2005; Sine, David & Mitsuhashi, 2007)
Procedural Legitimacy	Authorities and institutions exercise their authority through procedures that people experience as being fair.	Tyler (2006)	
Professional Legitimacy	Conferred professional endorsement.	Deephouse & Suchman (2008: 53)	
Sociopolitical Legitimacy	The extent to which a new form conforms to recognized principles and accepted rules and standards.	Aldrich & Fiol (1994: 645-646)	Frequency of media coverage (Sine et al., 2007)
Strategic Alliance Legitimacy	Market legitimacy, relational legitimacy, social legitimacy, investment legitimacy, or alliance legitimacy.	Dacin, Oliver, & Roy (2007)	
Technical Legitimacy	Focused on aspects of core technology	Ruef & Scott (1998: 883)	Technical standards (Ruef & Scott, 1998)

Table 2: Construct definitions and representative measures

Construct	Definition	Representative Measures
Legitimacy	“A generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions” (Suchman, 1995, 574).	Adoption, number of ties or linkages, conformity, and media-based measures (Schneiberg & Clemens, 2006; Vergne, 2011).
Performance	“Outcome-based indicators that are assumed to reflect the fulfillment of the economic goals of the firm” (Venkatraman & Ramanujam, 1986: 803).	“Firm outcomes: (a) financial performance (profits, return on assets, return on investment, etc.); (b) product market performance (sales, market share, etc.); and (c) shareholder return (total shareholder return, economic value added, etc.)” (Richard, Devinney, Yip, & Johnson, 2009: 722).

Table 3: Meta-analysis results for the correlation between legitimacy and performance

<i>k</i>	<i>N</i>	<i>r</i>	\bar{p}	<i>SE</i>	95% <i>C.I.</i>		<i>Q</i>	<i>I</i> ²
84	116,472	0.081	0.081*	0.004	0.073	0.088	3636.5*	97.7%

k = number of effect sizes; *N* = total sample size; *r* = mean correlation; \bar{p} = estimate of corrected average population correlation; *SE* = estimated standard error; *Q* = chi-square test for homogeneity; *I*² = heterogeneity index; * *p*<0.01.

Table 4: Random-effects meta-analysis results for the correlation between legitimacy and performance

<i>k</i>	<i>N</i>	<i>r</i>	\bar{p}	<i>SE</i>	95% <i>C.I.</i>	
84	116,472	0.057	0.057*	0.025	0.009	0.105

k = number of effect sizes; *N* = total sample size; \bar{p} = estimate of corrected average population correlation; *SE* = estimated standard error; * *p*<0.01.

Figure 1: Definitions of legitimacy in management research (1995 - 2015)

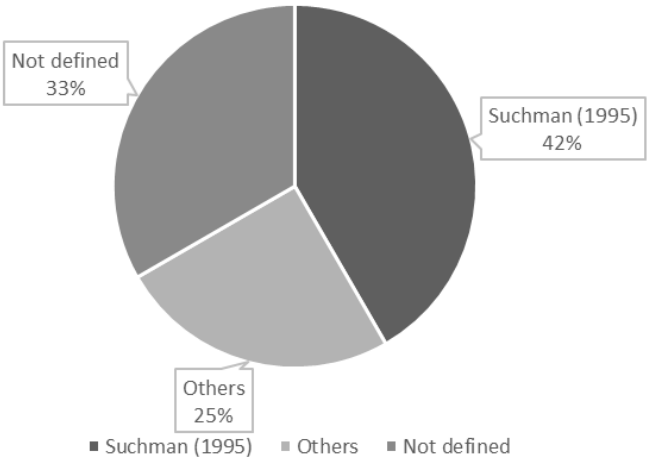


Figure 2: Studies on legitimacy published in management journals

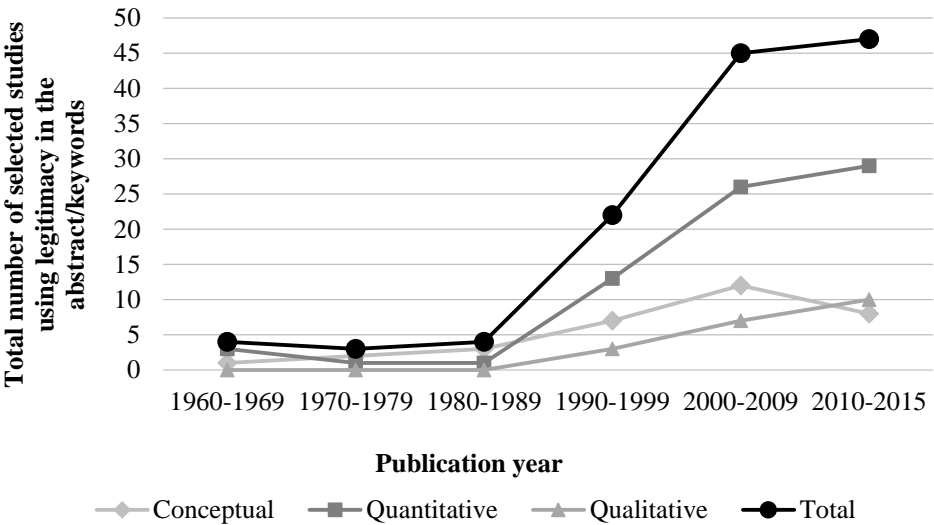
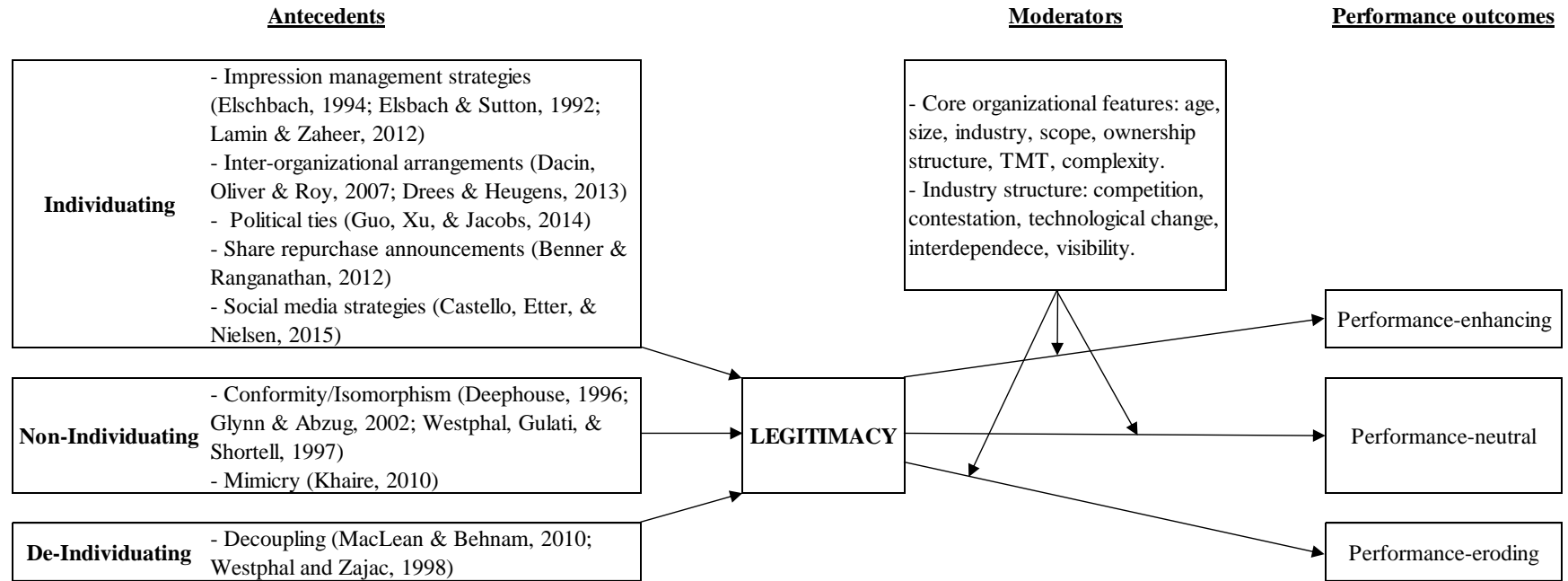


Figure 3: Proposed legitimacy model



CONCLUSIONS

Organizations are increasingly subject to external pressures from the institutional environment in which they operate. Simultaneously, organizations aim to have an effect on their institutional environments. The research presented in this dissertation contributes to the organizational theory and strategy literatures by studying how organizations shape and are shaped by the interactions with their institutional environments. Specifically, the essays that compose this dissertation shed light on the interaction between three types of actors: organizations, society, and the government. In the following section, I outline the contributions from each chapter and present the implications of the dissertation. Next, I discuss the limitations and include some suggestions for future research.

Chapter 1 - *On two sides of the smoke screen: How activist organizations and corporations use protests, campaign contributions, and lobbyists to influence institutional change* – examines the simultaneous influence of activist organizations and corporations that use conspicuous (*i.e.* protests) and inconspicuous (*i.e.* campaign contributions and lobbyists) strategies to change institutions. The results of this chapter uncover the actions of corporations that attempt to shape the institutional environment in which they operate, alongside the actions of activist organizations whose preferences for institutional change diverge from those of the corporations. Specifically, the results raise awareness on the interconnectedness of actors and strategies in the process of institutional change, and indicate that there is more potential to influence institutional change for actors who attract and mobilize public support, when compared to actors that control important financial resources. Thus, this chapter contributes to the literature by uncovering the effect of the use of conspicuous and inconspicuous strategies by different actors in the process of institutional change (Soule, 2012). Specifically, this chapter contributes to the identification of the ‘countervailing effects’ of movements and counter-movements, by studying the mobilization of activist organizations that aim to change the status

quo and the counter-mobilization of corporations that aim to maintain the status quo (Walker & Rea, 2014).

Chapter 2 - *Clearing the smoke: Coercive pressures, legitimacy, and performance in the US tobacco industry* – uncovers the mediating role of legitimacy in the relationship between increasing coercive pressures and industry performance. Though being central to the institutional theory literature, this mediated relationship has been ignored in prior research, as most prior work has focused on the direct effect of coercive pressures and legitimacy on industry performance (Heugens & Lander, 2009). The results reveal that increasing coercive pressures that operate as a normative influence affect industry performance through influencing societal perceptions about what is deemed legitimate, whereas this is not the case for pressures that transfer a set of incentives and sanctions. Therefore, this chapter contributes to the literature by revisiting some of the key concepts of institutional theory, namely coercive pressures and legitimacy, and showing that an undifferentiated usage of these concepts limits both their theoretical as well as their empirical usefulness. Specifically, this chapter contributes to the theoretical and empirical conceptualization of coercive pressures by including a fine-grained look at this concept, and by disentangling and separating the effects of increasing coercive pressures and legitimacy on industry performance. By doing so, this chapter expands institutional theory research by showing the importance of conceptually and empirically telling apart the concepts of coercive pressures and legitimacy. Moreover, this study contributes to the conceptualization of legitimacy in the case of contested industries and extends previous work by testing the performance consequences of legitimacy in an established contested industry (Galvin et al., 2005).

Chapter 3 - *Performing by adhering? A review and meta-analysis of legitimacy* – provides an extensive review of the concept of legitimacy, and reports the results of a meta-analysis of empirical research on the relationship between legitimacy and performance. The review part of this chapter examines the

antecedents and outcomes of legitimacy, and provides an overview of the use of legitimacy as a moderator or mechanism; while the empirical part contributes to the debate on the consequences of legitimacy by conducting a meta-analysis on the performance consequences of legitimacy. As a result, this chapter organizes and synthesizes prior research in an overarching theoretical framework and provides directions for future research. Hence, this chapter contributes to organization and management research by shedding light on the use of the concept of legitimacy and by providing a comprehensive and encompassing review of this concept. Furthermore, this chapter provides researchers with a timely framework to tackle the concept of legitimacy, and with a comprehensive list of important issues that merit further scholarly research.

Taken together, the essays in this dissertation have two important practical implications. Firstly, the results suggest that the ability of organizations to perform well requires the legitimacy bestowed by others. That is, the results not only show that legitimacy matters for performance, but that managing legitimacy should be a priority for organizations attempting to achieve superior performance. Second, the results indicate that gaining and maintaining legitimacy is important if organizations are to shape the institutional environment in which they operate. Specifically, the results presented in the different chapters show that the engagement of organizations with their institutional environment should not be seen as detached from their corporate and business strategies, but should rather be seen as interconnected with their strategic efforts.

The contributions and implications highlighted above should be tempered with an understanding of the limitations of the chapters presented in this dissertation. First, the first two chapters are restricted to the setting of the tobacco industry. Although the relevance of this industry, and the conditions under which the results could be generalized to other industries, have been addressed in the respective chapters, studying a single industry could limit the generalizability of the results. Nevertheless, I am confident that many aspects of the dynamics uncovered in this

thesis are also applicable to other contested settings (*e.g.* alcohol, gambling), and that some of the aspects apply to non-contested settings (*e.g.* the positive influence of legitimacy on performance uncovered in paper 3). To increase confidence in the results, replications of the studies using data from different industries is warranted.

Second, given that the first two chapters use data at the industry level, the specific dynamics associated with the strategies or outcomes at the organizational level cannot be addressed. That is, the characteristics of organizations that make them more likely to influence institutions in their favor, or that protect them from the effect of institutional pressures and legitimacy threats, remain unknown. In other words, as the models are estimated at the level of the industry, it is not possible to infer directly the differential results for the various organizations in a given industry. However, given that the concepts of study are extremely relevant at the level of the industry, the selection of the industry level of analysis does not hinder the theoretical and empirical contributions provided by the chapters. In spite of this, further studies using the organizational level of analysis may bring new insights into how specific organizational characteristics moderate the dynamics uncovered.

Third, with respect to the last chapter, it was not possible to test the proposed model on the antecedents, moderators and consequences of legitimacy with the available data. Therefore, data limitations impede testing the expected positive, neutral, and negative outcomes. Nonetheless, the proposed model is based on an extensive and comprehensive review of the organization and management literature that studies the concept of legitimacy, which increases the confidence on the expected relationships. Future efforts to empirically examine the proposed model using advanced meta-analysis techniques such as MARA and MASEM are encouraged.

Notwithstanding these limitations, the essays that comprise this dissertation offer several opportunities for future research. To begin with, the first two chapters study the setting of the tobacco industry. This is a fascinating industry with the potential to shed further light into the dynamics associated with contestation. For

instance, with the help of current advancements in content analysis, future research could use the tobacco industry as a setting to enhance our understanding of contestation and its evolution, by exploring the discursive underpinnings of contestation and by tracing its emergence or development. Similarly, research on contested industries has the potential to contribute to the corporate political activity and the non-market strategy literatures by uncovering the market effects associated with contestation. Lastly, within the strategy literature, future efforts could benefit from bringing together insights from the literature on inter-firm alliances and institutional theory to examine whether industry-level legitimacy influences the selection of alliance partners.

Collectively, the three essays in this dissertation go back to the basis of institutional theory in order to theoretically clarify and empirically test some of the key concepts and relationships of the theory, while simultaneously, enriching some of the core claims of the theory by bringing together insights from other streams of research. This dissertation has benefited from the development of a unique database with data collected and assembled from various sources and using various methods, and with the use of cutting-edge techniques to ensure that the results stand the test of rigor. I believe that the results presented in this dissertation open up a chapter on the importance of research that incorporates organizations, society, and the government when looking at the complete pathway of institutional change, ranging from its origins to its implications on the legitimacy and performance of the industry. Research building on the insights presented on this dissertation, is thus, well warranted.

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